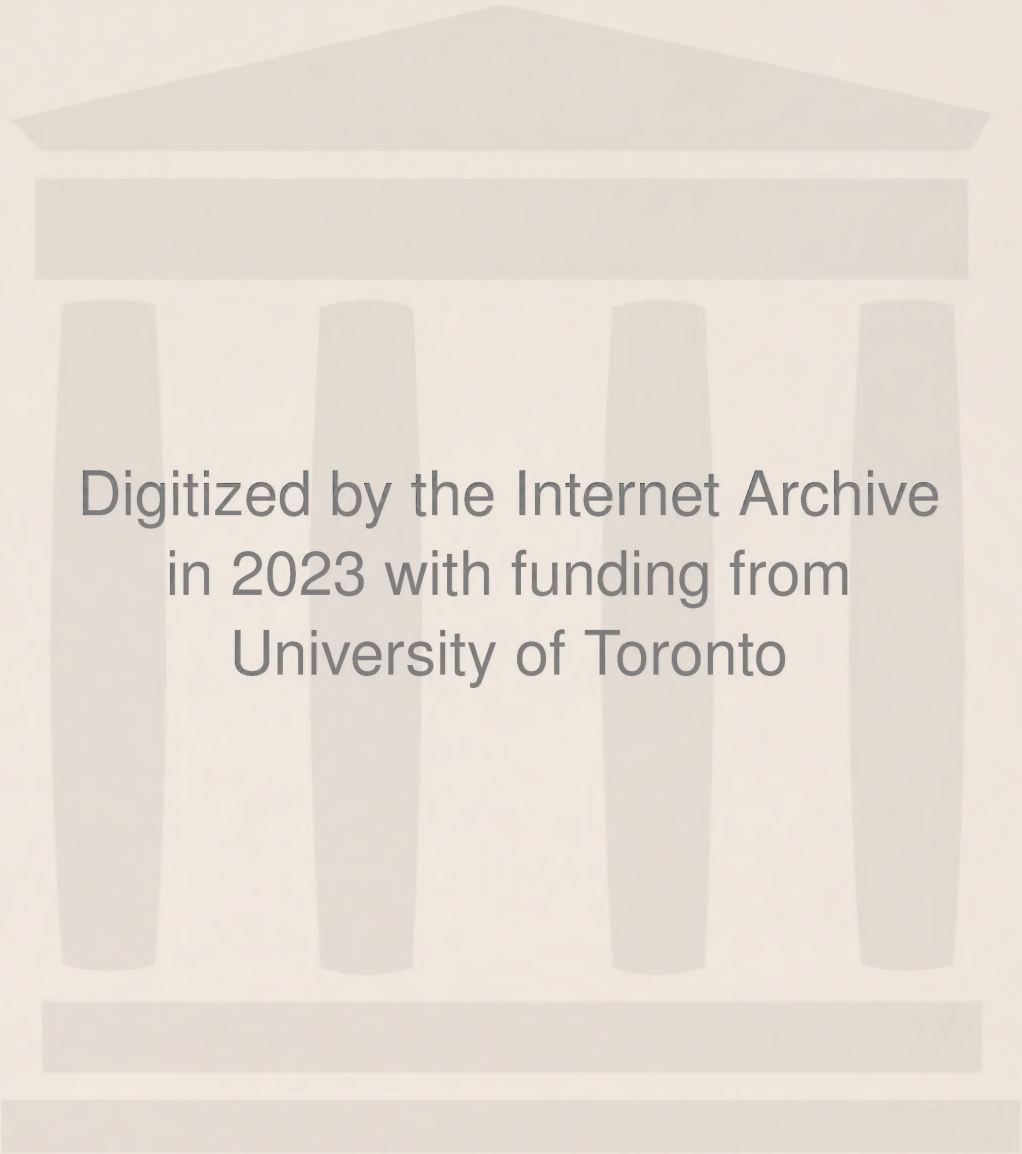

Ontario

THE ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Preliminary Meetings of the Royal Commission on Electric Power Planning

DATE: Dec. 9, 1975 **TIME:** 2pm

LOCATION: Thunder Bay

VOLUME NO: 13

OFFICIAL REPORTERS

Angus, Stonehouse & Co. Ltd.
14 Carlton Street 7th Floor
Toronto, Ontario M5B 1K5
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PRELIMINARY MEETING

ROYAL COMMISSION ON ELECTRIC POWER PLANNING

held on December 9, 1975 at 2 p.m.

DaVinchey Centre

340 Waterloo Street

Thunder Bay, Ontario

APPEARANCES:

Chairman	Arthur Porter
Members of the Commission	Robert E. Costello Solange Plourd-Gagnon George McCague Dr. William W. Stevenson
Scientific Counsellor	R. Rosehart

NOT PRESENT:

Legal Counsel	Robin Scott

Volume 13

K:AG

THE CHAIRMAN: Ladies and gentlemen, may we come to order, please. This is the second meeting of the Royal Commission in Thunder Bay, of course, this afternoon we have an extremely interesting selection of briefs.

I would like to present to you the commissioners beginning on my right with Solange Plourd-Gagnon. Solange is going to be looking after the consumer aspects of the commissioners' work. She is a resident of Ottawa and a journalist by profession.

Next to Solange is Bill Stevenson whom I am going to ask to chair this meeting this afternoon as a matter of fact. Dr. Stevenson, many of you will know is a member of the Ontario Energy Board as well as being a member of this commission. He is an economist and has done a considerable amount of work in the field of energy systems and the economic planning thereof.

Next to me is Bob Costello who is not unknown to Thunder Bay becasue of his long time association as vice-president of Abitibi. He is on a leave of absence from the company.

Bob is the commissioner who is going to be looking into the priority projects which, of course, as most of you know are part of our terms of reference.

George McCague is a farmer and advisor on various agricultural activities in the province,

advisor to both provincial and federal governments. As you would guess, he is going to be concerned with the agricultural aspects of electric power planning. For this we are very grateful to have a farmer in our midst.

So those are the commissioners. I would like at this time to introduce Dr. Bob Rosehart who is the scientific counsellor to the commission. Our counsel is unable to be with us to-day, Robin Scott, but Bob is on the faculty of Lakehead University and has been for quite a few years, the commission is tremendously grateful to the university for releasing him on a leave of absence to work with us on some of the research aspects of the commission.

With that introduction I now pass over the chair to my colleague Bill Stevenson. I think, Bill, you better sit in the middle so, so I will change seats with you.

DR. STEVENSON: Ladies and gentlemen, we have a very busy afternoon, in fact, Dr. Porter, we have twenty-three submissions so far which, I believe, believe, is a record for the fourteen cities we have now had preliminary meetings in. That is quite a tribute to the interest, I would say, of the citizens of Thunder Bay in our Royal Commission, but because of the number we are going to have to adhere to some fairly tough time limits. I believe that if we allow about ten minutes per submission we have a reasonable chance of getting through our itinerary.

It may be -- we will have to see how things go -- but we may be asking people -- some people -- if they would be available this evening to present their submissions at that time. We will be reconvening here at 8 o'clock, but let us see how it goes and perhaps we can make good time. We will be having a coffee break in, perhaps, about an hour and a quarter, an hour and a half, but the time is now 2:10. I think if Mr. Fielders is here we could commence with his submission.

Mr. Fielders is a long range planning officer at the Department of Planning and Development, city of Thunder Bay. You have ten minutes, Mr. Fielders. I hope,however, you will allow within that time for some commission questions.

MR. FIELDERS: Certainly. Firstly I would like to thank the commission very much for this opportunity. I would like also to point out that I have been asked by the Regional Lakehead Planning Board to speak on their behalf, and because of the time constraints that we are working under I will try to just highlight the points in the brief rather than go through them in total, then if you have any questions you can ask them.

A major concern expressed by the Lakehead Planning Board is the failure to realize the coordinated planning confines and lack of participation by Ontario Hydro in the local and regional planning. The Board also feels that there must be a greater emphasis placed on

conservation programs to encourage a more efficient use of power. This would include considering the usage of small package for individual power plants in small communities or industrial usage. More detailed investigation should be made into the use of other forms of power, this would include solar or wind power.

Also of particular concern in this region is the effect of transmission lines on good agricultural land. Because of this it is more vital to this area and the board would like to emphasize that it is essential to preserve in any manner possible. In short, the Lakehead Planning Board feels that there must be continual consultation with the local and regional planning process.

In this regard the planning department for the city of Thunder Bay agrees whole-heartedly. Planning of the generation and distribution of electrical power in Ontario must be a cooperative venture amongst the Ontario Hydro, all levels of government, the public. We all agree that there must be an adequate and secure supplies of electricity and that this involves compromise and trade offs. Decisions on these trade offs, however, must not be made without full participation from those affected. The process of participation must be quite clear and a support environment provided which will allow it to work. To

understand why the participation process has failed so far the decision-making processes that are involved in determining the planning for electrical power must be examined.

The first area of our concern involves the exchange of information. All factors that are involved in making decisions should be made available to everyone, including the commission that is presently considered classified or confidential.

A major stumbling block has been the readability of the information which has been supplied; one way that this can be overcome is to require that Ontario Hydro devote more funds to the preparation of more readable presentations and better distribution of this information.

Due to the very technical nature of most of the data it seems that technical groups now need this to be made available and who are capable of relating to the general public and other agencies and planning boards or local municipal governments. Funds should be budgeted and made available to those interested groups for conducting any independent studies or interpreting any technical reports involved. This will ensure that the real problems are recognized and the issues are properly understood by all parties.

Of secondary concern is that of alternatives. In the past the persons most closely affected have not been involved until well on in the process. It is

essential that these people be allowed to take an active role in the preparation of alternatives, rather than being faced with predetermined goals and a limited number of ways of achieving them. Technical goals have tended to prevail at the expense of social goals and processes.

Also, at a greater understanding was achieved at the local level, it might be found that other choices are open to us, instead of the system so rigidly adhered to presently.

Another breakdown in the decision-making process occurs during the examination and evaluation of alternatives. This stage requires much more detail and again, can only be achieved if the required funds are made available to the interested groups.

Under the present system, in the implementation stage, participation stops. At this point it becomes clear that the participation process has been purely manipulative, allowing imput but assigning no responsibili to those involved. It becomes clear that Ontario Hydro's concept of participation is static and prognostic. The circumstances that determine a decision can change very rapidly and there is an obvious need for continual review and evaluation as the project proceeds.

It is essential that review continue after the project is completed as well. The

supply of information about projects that are finished will enable better decisions to be made on newly proposed projects.

In closing I would like to emphasize that the spirit and the degree of involvement of the public, the local municipalities, the local planning boards and other agencies interested in electric power planning, needs serious examination and must be greatly increased. The methods and level of contact must be assessed as meaningful by all parties concerned. The existing priorities of Ontario Hydro must be re-evaluated and changed; and present budget allocations re-organized to reflect these changes. Vocal involvement must begin right from the beginning of the formulation of the goals and objectives through to the on-going evaluation of completed projects. It is only when this is achieved can there be genuine participation in an integrated planning process.

THE CHAIRMAN: Thank you very much, Mr. Fielders for adhereing nicely to the time constraints.

You have made a number of statements relating to Ontario Hydro's public participation process, and I would like to ask you whether you have reached these conclusions on the basis of specific efforts that Hydro has made in this area in the public participation area. I would imagine, for example, that in the process of

review of the twelve potential sites for a new power generation complex that the city planning commission would have been involved; am I correct?

MR. FIELDERS: That's correct.

THE CHAIRMAN: Are these conclusions based partly on your assessment of that experience?

MR. FIELDERS: Yes, definitely.

MR. CHAIRMAN: I see. Were there any other major Ontario Hydro public reviews that have been conducted in this area?

MR. FIELDERS: Not while I have been here. There is one they are considering and they have come to the area recently, but again I felt that we were faced with decisions that had already been made and the level of information made available to us was very weak. In fact, there was no actual information prepared and given to us. It was all a verbal presentation.

THE CHAIRMAN: I see. Mr. McCague is the member of the commission who is most responsible for the preparation of the item in your kits having to do with funding and research by interest groups. You have mentioned two or three places the importance you attach to providing assistance to groups that wish to challenge Hydro.

Is there anything you would like to say on this, Mr. McCague?

MR. MCCAGUE: Mr. Fielders, the

preliminary meetings are a step towards participation. This is a new involvement, really, in the role of Royal Commissions, but a real effort is being put forward through a funding program whereby we are prepared to assist in research or presentation or preparation of briefs to enable individuals and interest groups to involve themselves in a very direct way. I am sure that this will be interesting to you in view of the comments you have made.

MR. FIELDERS: What I would see necessary is that this sort of thing be on a permanent basis, that there be an agency or a commission established that would have funding available so that all projects being proposed by Hydro would have access to these funds on a continuing basis.

MR. MCCAGUE: Interesting to hear you say that. This is an experiment that we have been given direction to try this matter of participation through funding, and your involvement and your active part in this as a group or individual, I think will have a very direct influence on how far it goes into the future, so we look forward to your interest.

Just one comment; you were speaking about a good agricultural land being preserved. Do you associate yourself with any farm group in the area, Mr. Fielders?

MR. FIELDERS: There are some associations locally that I have worked with personally in t land use plan that were prepared by the Ministry of Natural Resources. I worked with the farmers in the area to prepare their brief to them, expressing their concern about the preservation of agricultural land in this area. It is very scarce, we don't have any class 1 agricultural land in the area, so it becomes more acute in north western Ontario.

MR. MCCAGUE: It is interesting to hear of your concern and cooperation with the farm group, thank you.

THE CHAIRMAN: Any other observations?

MADAM SOLANGE PLOURD-GAGNON: Mr. Fielders, I realize you are involved in the same area of long range planning. How many years do you consider in your long range planning?

MR. FIELDERS: We generally look towards fifteen years as anything reasonable that we can plan for. Anything beyond that, sofar as we are concerned, is a shot in the dark.

MADAM SOLANGE PLOURD-GAGNON: Is it something new, or is fifteen years reasonable?

MR. FIELDERS: No, that is just what -- we generally are working towards that at the present time because the regional official plan has a time span of fifteen years, so that as a designated municipality the

city tries to work towards actual periods that have been outlined in the present plan that are over a fifteen year period.

THE CHAIRMAN: Thank you very much, Mr. Fielders. We have appreciated the input through out our sessions from the planning professionals. I think it is a very important part of our program.

The next submission on our list is from Mr. Tom Miyata.

MR. MIYATA: Mr. Chairman, would it be possible to divide my ten minute time into five minutes each, because there is another brief. Two of us were going to present this. He will take one part and I will take the other part.

THE CHAIRMAN: All right.

MR. MIYATA: I have a summary here of the brief which you people have in front of you. I tried to follow the guidlines which you people put forth. I will pick out the part as far as these things are concerned which I thought was relevant to myself and the area in which I live.

The first thing is on growth. The population and electrical consumption growth.

The feeling that I have expressed previously, so have some other people, is that the

population cannot continue to increase and increase. There has to be a point at which there is going to be so many people that it is going to destroy our northern style of living, and so we would like to see a stabilized population considered for Ontario.

People down south are objecting in the urban centres to these growths which are occuring, they picked Thunder Bay as one of the growth areas -- the government has -- so that they will try and encourage growth up here, so if the population growth increases up this way because Ontario wants to grow, then our northern style of life is going to be altered and perhaps killed.

Now, this second thing, the electrical growth rate, this is one thing that whatever done I could dig up with what Ontario Hydro has planned as far as expansion and generating systems is considered, by the year 2000 they are going to be increasing their capacity up to about 450% what it is just about now. According to sluf, and according to the Design for Development for population of North Western Ontario, it may go up only about 50%, so there is a fantastic difference between the increase capacity by 450% and the population of about 50%.

This may be due to Ontario Hydro's projecting a seven per cent annual increase in electrical consumption. I don't know whether they are going to be

considering this seven per cent as being unrealistic.

Economics, the pricing of electrical energy. The price of electricity must reflect the true cost of producing and transmitting clean electricity. Right now I would say the electricity which is produced is not as clean as it can be because of items such as cooling towers, scrubbers, and non-chemical maintenance of right of way which Hydro avoids to, perhaps, produce electricity at the lowest rate possible.

Now, Hydro is not a profit oriented private company. It is providing electricity at cost, and my feeling is that it is taking a lot of short cuts which it, perhaps, shouldn't.

The second point about pricing; the price should be the same for all users or if the rates are to be weighted, it should favour the small user.

The third point about the price, a higher more realistic price would discourage wasteful use of electrical energy.

In the United States, the price for electricity went up and they found that the consumption rate, which had been increasing just like ours, had gone down.

As far as the environmental section is considered, one particular area which I chose

was protection of particularly sensitive areas.

Now, ideally, electrical generating plants should not be set up near these areas if there are other areas available.

The case in point I have here is Quetico Provincial Park. This is a wilderness area and may soon be subjected to contamination by sulphur dioxide. If they are going to use fuel as they have suggested previously in letters to me, they they are going to be releasing something like two hundred and twenty tons of sulphur dioxide every day, and mercury to the extent of about two and a half pounds a day in the vapour form going up in the air.

These are just two points I have just picked out.

Now, Ontario Hydro is not planning any control of these two contaminants. They must be forced to do so by someone. The public can't do it.

The last part, electrical power generation, power generation based on energy from coal with up to date technology, and emphasizes must be placed until fusion power is available. The CANDU, with all its advantages, still has unknown qualities about it. Before this system is accepted, any questions raised by the public should be satisfied.

Even the CANDU reactor which people are talking about is of interim measure, and it also is not for a long long time, but a stop gap measure until, perhaps, they can get the fusion reactors.

THE CHAIRMAN: Thank you very much, Mr. Miyata. I hope you will just stay put for a minute until we consider this. Some of our best briefs have been from school teachers and it has been encouraging. I come from a long long line of high school teachers.

DR. PORTER: I don't have really much to say. It is a concise statment of many issues which, I am sure, the commission is going to be concerned with in the future.

Perhaps the only point I should comment on is this question of the efficiency of existing thermal plants, both fossil fired and nuclear powered. When you say these are about sixty -- or rather when you say that sixty per cent to seventy per cent is being wasted energy, of course, this is quite right. Unfortunately, much of this energy is low temperature energy as you probably know, and much research around the world is going on to see whether there is any way of getting increased efficiency. The laws of nature, of course, are involved here, and the question of efficiency in many ways are outside human control, but again,

this is an issue that the commission has in its terms of reference. It is referred to as management of waste thermal energy, and we will certainly be looking into this question.

MR. MIYATA: There is one point here with regard to the efficiency of thermal generating plants that the Russians, I guess, do have some generating stations which they are experimenting with in which they are getting perhaps fifty per cent more efficiency than what we have presently in the west. This is an experimental thing, but like I say, which coal fired -- this is why I was saying one of the things about perhaps one of the future things, there will be lots of coal, they can improve the efficiency of the thermal stations so that they can get electricity.

DR. PORTER: These stations you are talking about in Russia, Sweden, Switzerland, are combined thermal and electrical generating stations. I think that is how they manage this increase in the efficiency.

DR. STEVENSON: Perhaps we will call on your associate now. Could you please identify yourself?

MR. NELSON: John Nelson from Atikokan.

THE CHAIRMAN: Are you a teacher too?

MR. NELSON: No.

In my opinion, the solution to the problem of energy shortage in Canada is not the building of new power plants, but rather the more efficient use of the abundant energy that we now have. Through the careful husbanding of the energy that is now available, we could use the coming years not in building even more power plants, but in research and other less polluting energy resources such as the sun, the wind and the tides. Canada appears to be a very wasteful and inefficient country in regards to energy use. We use three times as much energy per capita as Japan and twice as much as Norway.

The harmful effects of power plants, whether they are nuclear, fossil fuel or hydro electric are well known. The environmental hazards of nuclear power, however, have not appeared to generate as much discussion in Ontario as elsewhere. Sweden, for example, has put a moratorium on the building of nuclear power plants and the United States has been forced, due to numerous nuclear accidents, to re-evaluate its nuclear program. However, in Ontario the nuclear program continues to expand in spite of a host of extremely serious environmental problems.

It appears that the Canadian CANDU system is a safer system than the light water American system. However, the problems are still enormous. For

example, at Pickering this last year, there were leaks of radioactive heavy water with tritium reaching the environment from the water effluent and tritium was also found in water vapour around the plant.

Some of the unsolved problems are:

1. Storage of radioactive wastes.
   Methods of safe storage have yet to be found. Leakage from storage facilities in Hansford, Washington have been numerous.
2. Production of heavy water.
   The production of heavy water requires hydrogen sulfide and, therefore, extreme care is necessary. A provincial park near the Douglas Point plant had to be closed to overnight camping because of the hazard.
3. Mining of uranium.
   The death of fifty miners at Elliot Lake has been attributed to lung cancer caused by uranium.
4. Radiation effects on humans.
   According to research carried out by Dr. Gofmann and Dr. Tamplin in the United States, the maximum dose of radiation allowed by U.S. regulations could cause a ten per cent increase of cancer and leukemia and might increase by five to fifty per cent the incidence of genetic disease.

The supporters of nuclear power claim that low level radiation is not that dangerous and that radiation levels will not rise to the allowable levels. Evidence is accumulating, however, that low level radiation is dangerous and to assume that radiation releases from power plants will not exceed safe levels is to assume accident-free operation. The nuclear power industry has been plagued by accidents.

To continue with the building and operation of nuclear power plants in light of the radiation hazards is extremely irresponsible. A moratorium on the use of nuclear energy should be imposed immediately to last until the effects of radiation on humans is understood.

THE CHAIRMAN: Thank you very much, Mr. Nelson. You are affiliating yourself with Ralph Nader who has made this same plea in the United States. We were reading on the plane coming up the current issue of Time and it discusses the call for a moratorium by Nader -- not just by Nader alone, but others.

MR. NELSON: I think mainly it is the low level radiation effects from the nuclear power plant as I understood it. Some of the studies -- one by Dr. Tamplin show the possibility of a ten per cent increase in cancer and leukemia. This is really strictly a high level. Some showed

more rates and some showed higher rates, but with nuclear power there is a possibility of having genetic diseases passed on from generation to generation, and increasing leukemia and cancer rates and so on at this really alarming rate to me is just unthinkable.

THE CHAIRMAN: Could you do this, Mr. Nelson, could you leave with our scientific counsellor, Dr. Rosehart, the references to the articles by Dr. Tamplin on which you are basing this statement and any other references you feel would support your submission?

MR. NELSON: Yes. In fact there are two books written by Dr. Tamplin. One is called "Poison Power" which was introduced fairly recently, and one came out under the satirical title of "Population Control Through Nuclear Expansion" or something like that.

DR. PORTER: No, I think you have stated your case very effectively. We are just here to seek clarification on any issues. I think this is a very clear and forthright statement. Thank you very much.

MR. MCCAGUE: Mr. Nelson, why do you think we are, relatively speaking, so wasteful on energy compared to the figures you report?

MR. NELSON: I don't know. Maybe because North America has such an abundance of energy that up to this point it hasn't been very important to conserve it,

therefore, we are extremely wasteful with all our resources.

All right, for example, you could cut down heating cost in the average home in Ontario by forty per cent through better insulation of a home. So things of this nature really add up, all our resources, electrical, fossil fuel and so on.

MR. MCCAGUE: Is it your view that we have been careless and extravagant?

MR. NELON: Oh, yes.

MR. COSTELLO: I think it is a fact that Norway may have no source of fuel and they are very conscious. Any of us who have been over there know this.

I guess the same thing is true to some degree of Japan. I am not really sure. I shouldn't be making statements if I can't back them up.

THE CHAIRMAN: Thank you very much, Messrs. Nelson and Miyata for your submssions.

We were talking at lunch about the lack of humidity in the hotel. I am just pointing out that you can save a great deal of energy by humidifying a house properly, and the CPR hotel we are staying in is a beautiful hotel, but I would be surprised if there is five per cent loss of humidity in the place. I think I am going to find that out.

Is Mr. Redfern from the HOPE committee present?

MR. REDFERN: Yes, Mr. Chairman.

Mr. Chairman and members of the committee, I was under the understanding from your field team that we were dutily allowed ten minutes for the presentation and allow in turn for questions, from the commission. Apparently, I am off base on that.

It is already current to you, and it will be to the audience that the submission isn't, in itself, definite questions.

Now, the HOPE Committee wishes to express its appreciation of this opportunity of addressing the Royal Commission on Electric Power Planning.

With reference to the letter from the chairman, we must say that it was refreshing. The fact that "personal philosophies" are mentioned in connection with a technical plan is a new and heartening departure. The technical and scientific gentry will no doubt recoil in horor at the idea, but who knows, we may even be dealing in value judgements, human value judgements, of all things!

The traditional concern of the HOPE Committee is the impact on the environment of man's operations, and so we are here concerned about the results of the Hydro planning. We are also concerned about the evident lack of policy of energy conservation and the continued dedication to a policy of maximum growth, growth at any cost, even at the terrible cost of the ultimate exhaustion of the

resources of the earth, with a monument of garbage to mark their going.

The form of this presentation may be open to question, but it reflects a conviction that momentous and far-reaching decisions are being made at all levels of society on the basis of poor, prejudiced, or conflicting data. In our opinion, the electrical power question would be answered on the same basis. We of the HOPE Committee do not pretend to be experts. Indeed, we would pair the Chairman's observations of experts with one to the effect that any society which places implicit trust in its technicians is a sick society. The form of this presentation, then, is deliberate in its posing of what we think are provocative questions, and in its avoidance of a direct statement of position. The questions are grouped under four headings:

(a) Nuclearfission Generating Stations

(b) Fossil-fuel Generating Stations

(c) Hydraulic Generating Stations

(d) Energy Conservation

(a) We are concerned about the short- and long-term effects of radioactive emission to the biosphere.

1: Is there enough data to calculate what these effects are, or will be?

2: Does the public have the right to make a choice about man-made additions to natural levels of radiation?

We are concerned about the extraction, transportation and long-term storage of high-level radioactive wastes.

1: Is the belief that we can establish a kind of nuclear priesthood capable of maintaining safe storage and protection of such material for hundreds and thousands of years justified?

2: Has our control of the effects of other technological systems given us reasonable grounds for expecting that we can't control this ultimate pollution?

3: Are we justified, in any event, in bequeathing this outcome of our Faustian bargain to our descendents?

4: Are the proposed "perpetual" storage systems indeed perpetual? Are the mathematical odds against catastrophic release of the material valid only on a short-term basis?

We are concerned with the use of the uranium as a nuclear fuel.

1: If we must put all our eggs in the nuclear basket, what are the actual Ontario and world reserves of this material?

2: Will we be forced to reprocessing of fuel eventually, with all the consequences that implies?

We are concerned with the problem of thermal pollution.

1: Is there sufficient data to indicate What the effect

of this form of pollution will be on the ecosystem?

2: If a set of standards for such pollution can be arrived at, how can we be sure they will be adhered to?

(b) Fossil-fuel Generating Stations: We are concerned with this apparently lesser of two evils and its air-emission and thermal pollution problems.

1: Has there been sufficient funding for research with regard to air emission?

2: What are Hydro's responsibilities, moral or legal, for the effects of ancillary operations supportive of fossil-fuel generating stations?

3: Should Hydro be called upon to ensure that minimum impact is felt from such operations?

(c) Hydraulic Generating Stations: We are concerned about this type of generating station, while appreciating that they are non-impactive as far as pollutants are concerned.

1: Is sufficient research done on, and attention paid to the social and ecological effects of the disruption and re-organization of natural watercourses?

(d) Energy Conservation: We are concerned that realistic conservation of our present electric power supplies is not practised. If we were to use such supplies with less abandon, would we be faced with our present problems?

1: If Hydro bases its planning on a projected rise of annual demand for power of seven per cent, what is the actual probability of such a demand? Is this a kind of self-fulfilling prophecy?

2: The ethos of maximum growth and consumption notwithstanding, can there be any doubt that near-zero, if not zero growth in production is called for? Is it not a question of <u>when</u>, not <u>if</u> an effort to achieve such a state should be made?

3: Should we allow the production-consumption mechanism full rein, letting the chips fall where they may, or should we buy at least breathing-time in which to attack our energy problems by striving for curtailed growth?

4: What should the role of Hydro be in such an approach? Are its claimed efforts productive in educating the public away from the attitude brought about by the earlier "better living through Hydro" campaign? If not, how can such efforts be made more productive?

5: Should Hydro's rate structure be drawn up in such a way that a much higher cost per unit of power would result with increased consumption? Would this in fact lead to lower consumption?

6: Should Hydro be required to institute a kind of rationing of residential and commerical power, while

providing a base supply for essential needs? In the case of residential power, would this stimulate manufacturers of electrical products to achieve better efficiency to attract the narrower market, thus leading to more efficient use of power?

7: By means of heavy taxation of power used above a certain level can industry be induced to develop labour-intensive operations rather than automated operations which are consumers of power and exclusive of the human element?

8: Is export of power justified? Are we compelled to meet the coming demand for electrical power especially by the mid-western United States as their Canadian supply of gas and oil is curtailed?

9: Should the use of electric power in illumination and advertising be examined closely? Are the lighting systems of office-buildings, schools, and like establishments wastefully designed and operated.

In conclusion, we are aware that the question we pose do not lend themselves to quick and easy answers. We wish to stress that in the attempt to solve our problems the human factor should not, must not, be ignored or given a low weighting. We think society is for the benefit of man, and when materialistic goals are pursued to the detriment of man, we must protest. It is our belief, finally, that in

the present instance the Commission will be a productive theatre for voicing that protest.

MR. CHAIRMAN: Thank you very much, Mr. Redfern most thoughtful submission. I think that almost without exception the questions you pose are those that will engage our attention and are within our references.

I wonder whether you could tell me just who the HOPE Committee are?

MR. REDFERN: The HOPE Committee came into being approximately two years ago. It originated with our opposition to certain plans by Hydro. It is an acronym. The original meeting was HOPE for pure environment. I believe it is a small group and not funded except through our own resoucres.

THE CHAIRMAN: Thank you very much.

DR. PORTER: I should endorse what Dr. Stevenson said about the very succinct brief you have presented. There is one point on page two, when you say "we are concerned with the use of uranium as a nuclear fuel.", sub-paragraph two,"will we be forced to reprocessing of fuel eventually, with all the consequences that implies?"

As you know, Mr. Redfern, part of the purposes of these preliminary meetings is educational. In fact, a very considerable part, and from time to time when submissions like this come up I, or some other members

of the commission tries to clarify them, because it is an important point.

In this particular case, I assume you are referring to the extraction of plutonium from the waste fuel, and that this process of extraction of the plutonium has, I suppose, certain hazards associated with it, but this was the point you were referring to? This is just for clarification, ladies and gentlemen. I wanted to be sure about that. Obviously you agree with what I have said?

MR. REDFERN: Yes, that is the point, Dr. Porter.

DR. ROSEHART: You seem to be concerned about nuclear power fossil generation and also hydraulic power.

MR. REDFERN: In that order.

DR. ROSEHART: In that order. So I take it, then, if there were to be an increase in demand in this area you would be most happy with all hydraulic power if it was available?

MR. REDFERN: We understand it is not available.

DR. ROSEHART: If you had your choice what would you take?

MR. REDFERN: The hydraulic.

DR. ROSEHART: You said the hydraulic is not available, so if you are looking at fossil

or nuclear power, which of the two?

MR. REDFERN: Fossil fuel a granting that, although it is difficult to the SO2 problem, it is quite difficult, more research will be funded into this particular problem with relation to fossil fuel.

THE CHAIRMAN: You may find it hard to find sympathy in your heart for Ontario Hydro, Mr. Redfern, but at the energy board hearings this summer we were told that in the interest of collaring that enormous rate increase of three per cent that Hydro cancelled or could curtail the number of research programs. If my memory serves me correctly, the largest amount of money involved was chopped out of the sulphur dioxide removal experiment at Lakeview Generating Station, so once again Hopson's choice thirty per cent rate increases are dreadful to contemplate, but so are fossil stations that emit sulphur dioxide. It is conceivable that there is a better to finance that research than through power rates, but it is difficult ---

MR. REDFERN: It is a matter of reaching the saw-off point between the benefits and crosses.

THE CHAIRMAN: That is what it is.

MR. COSTELLO: It is exceedingly difficult to scrub out low concentrations of SO2 as I am sure you know. International Nickel have been working at it for years. They do scrub out the higher concentrations and

produce liquid sulphur dioxide which the pulp paper industry uses. Eighty thousand tons a year, as I recall, but there is still a lot of SO2 getting away from them down there. Too bad somebody hasn't come up with a better scrubber or more effective scrubber. Scrubbers are quite power intensive, incidentally.

MR. REDFERN: Yes, I understand they are.

MR. COSTELLO: I hope we could find one but it is a problem.

MR. MCCAGUE: Mr. Redfern, on the first page, you made reference to this: "the continued dedication to a policy of maximum growth, growth at any cost ..." who forms this policy? Is it society, the public, government, who are you thinking of?

MR. REDFERN: It is part of the culture, part of the northern culture, the culture of production consumption. That is everybody's right.

If we look at the point we must legislate, for example, the cumpulsory use of the seat belts in automobiles. This is much for our society with regard for consequences of our actions. It is truely a cultural thing.

MR. MCCAGUE: The top of page two: "does the public have the right to make a choice about man-made additions to natural levels of radiation?" Should the

public not be making this choice?

MR. REDFERN: In my personal opinion they should make the choice -- they should have a choice.

MR. MCCAGUE: And hopefully we are going to have an indication of this?

MR. REDFERN: Exactly.

MR. MCCAGUE: In our communication with the public in this commission.

MR. REDFERN: I sincerely believe so. This is a new departure, I appreciate that, and we certainly wish it every success. It is our only hope, perhaps. Excuse the use of that word "hope".

THE CHAIRMAN: Thank you very much, Mr. Redfern:

Well, we are not losing too much ground, but that is inevitable. The next submission on our list is from Great Lakes Paper Company, Mr. C.M. Cotton, Chief Electrical Engineer.

MR. COTTON: Mr. Chairman, members of the Royal Commission on Electrical Power Planning in deference to your publicized request, and in view of the limited time available, Great Lakes Paper Company has, for this preliminary hearing, prepared and submitted an abbreviated brief. We intended to submit all of that brief

today, however, it would appear there is more time available than we anticipated and we would be prepared to read the complete brief if you so desire.

THE CHAIRMAN: It looks like about a seven or eight minute brief, please proceed.

MR. COTTON: This company, Great Lakes Paper Company, as a member of an energy intensive industry, welcomes the opportunity to submit this brief to the Royal Commission on Electric Power Planning.

The cost of electric power is increasingly becoming a major factor in our product cost and this continues a trend started many years ago. The trend has been resisted in the past by emphasizing the need for economies and efficiencies within the Hydro system and to some extent these pleas have been heeded. Now, however, the threat of energy restrictions becomes one of major concern and influences our present operation, as well as casting a shadow over future development. It follows that if we, as an established industry in this area, are apprehensive of the future, new industry developments will be all but discouraged. Therefore, one of the first priorities of this commission should be to publically state that north western Ontario will not become the sacrifical lamb to the pundits of doom and zero growth and that the special requirements of this frontier of Ontario will be acknowledged.

Hydro's Role : Ontario Hydro's basic function is to supply, on demand, reliable power at the least possible cost in quantities required by the economy of Ontario. While there has been and will continue to be dissatisfaction with cost, which are still of great concern, their ability to deliver has not been seriously questioned until quite recently.

This condition has been brought about largely by the public participation in planning, a policy which has been fostered on Hydro by the government. We do not condemn such a policy, but it should be carried out by the government offices, leaving Hydro to do what it does best -- generate and transmit power. This corporation is not qualified nor indeed does it have the right to base its technological responsibilities on its meetings with a relatively small representation of the people. The current policy results in a planning lead time of ten years or more, a time span which simply does not meet the growth pattern of industry, whose nominal lead time requires is one-third of this. Therefore, Ontario Hydro must be given some latitude in its growth planning, which must be based on past estimates and past statistical patterns if it is to fulfill its mandate to the people -- providing power when and where needed.

Without this assurance of Hydro's growth, this area can no longer develop and that will be to the detriment of all Ontario. Any extension of the ten year lead

time simply aggravates the situation and will work towards inaccurate forecasting.

Hydro should be directed to proceed with its planning in an orderly manner using the technology at hand to meet the environmental constraints rather than wait for a utopian answer. While the optimum time for constructive action has already passed, we cannot prolong this period of hesitancy by further procrastination until a point is reached where the shortage is real and the hardships are felt, thus triggering off a panic program of power expansion regardless of the effects on the environment.

The government then should lay down the guidelines, establish the constraints of environment protection and re-establish Ontario Hydro as a servant of the government rather than the controller of the economic and social well-being of our Province.

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Northwest Ontario, unlike the more industrialized southern and eastern portions, does not have large concentrations of electrical loads, enabling the economic construction of massive generating stations adjacent to load centres and therefore Hydro must adapt its design philosophy to the North, not vice versa. In this area where industry is scattered over many thousands of square miles, it would seem advisable to build smaller stations, each located at a load site. In many cases these stations could be built in conjunction with the industry where steam, electricity and speed stock could be interchanged with a resultant increase of efficiency and a beneficial effect on the environment.

This approach necessitates full co-operation between hydro and industry, the latter we feel confident now has the incentive. This company alone is now capable of producing fifty percent of its electrical power requirements and is working towards improving that percentage. With outside help, encouragement and expertise, this programme could have been initiated earlier and gone further towards the ultimate goal of self-sufficiency.

In Northwestern Ontario, our close proximity to large Manitoba Hydro projects lends itself to co-operation in the developments, even to the extent of joint financing. It would appear feasible for Manitoba and Ontario to contract for an east-west transfer of power and each share in the export of surplus energy from Ontario. This scheme would provide Manitoba a secure

market and financial benefits from export, as well as provide a diversified load pattern. Ontario Hydro would in turn receive a secure non-inflationary electric energy source and likewise share in the export benefits.

CONSERVATION

The Pulp and Paper Industry has long prided itself on the efficient use of all types of energy, not necessarily because of any altruistic ideal, but simply because it is a major part of our cost and it is therefore to our advantage to be efficient. However, with the new climate emerging, we will have a greater incentive to seek more ways of not only conserving energy, but of more efficient utilization of energy.

There is no question that sooner or later this philosophy will be adopted by all industry and if given some impetus from government or this Commission, it could well be sooner. We caution over-emphasizing the conservation of electrical energy and reference to this terminology has been purposely avoided in the preceding paragraph.

The conversion of selected fossil fuels and uranium into useful forms of energy can in most cases be accomplished more effectively and efficiently through the electrical mode and importantly with less hostile impact on the environment.

The philosphy of "total energy systems" must be established certainly as a policy of Provincial Government but preferably at the Federal level. It may well be that an expanded electrical program could contribute to an easing of the serious energy shortages by efficiently utilizing fuels in relation to their known reserves.

POWER NEEDS OF NORTHWESTERN ONTARIO

There is currently in Northwestern Ontario considerable expansion activity in the Mining, Chemical, and Pulp and Paper industries which is reflected by the six percent load growth compared to approximately five percent in the Eastern network. It is significant that the community may not be able to take full advantage of this opportunity to encourage accelerated growth in the support or service industries which would be expected to accompany such expansion. In the years immediately ahead, specifically 1977, 1978 and 1979, Northwestern Ontario will be deficient in electric power resource and will have to rely on selective load shedding to maintain system integrity. Delay in implementing plans for new generation will aggravate this situation and further retard the development of this area.

We ask the Commission to take steps to ensure that this condition will not re-occur in the future.

THE CHAIRMAN: Thank you very much, Mr. Cotton. I am going to quickly turn the microphone over

to Mr. Costello, but before I do that, I want to observe, as you probably are aware, you have support from the Ontario Energy Board for the view that Ontario Hydro is not the institution to make decisions on the expansion of electrical power as an economic or social tool of development in Ontario. The Energy Board in its report last September told the Government that it thought this was essentially a political decision. In that respect you have got a friend down in Queen's Park. Would you take over at this point, Bob?

MR. COSTELLO: Thank you, Bill. Mr. Cotton, that is a very good Brief. I, of course, know you are generating fifty percent of your own consumption of electric power. Other people are looking at doing the same thing. Part of the problem in doing it is the cost of fuel. It has been suggested that incentives should be given by some levels of Government to encourage this sort of thing. So industry and commerce which consumes seventy-five percent of the power generated in Ontario can, in fact, generate a percentage of their own use.

I think this is going to come. This may not come very quickly, as you know.

You certainly have a good point in the fact that any major expansion above a three-year project in terms of additions to plant or new plant, and if you have to wait ten years for the power to operate it there is a problem. I really can't say too much more. I wish we were all as efficient as Great Lakes. Thank you very much.

DR. PORTER: I have no questions.

THE CHAIRMAN: This isn't a question, just a comment, but a couple of interesting observations on total energy systems. These are matters we read about, but I am not sure myself of all the details. I know they are potentially great.

The next submission on my list is Atikokan Hydro. Mr. M.H. Kelly, Manager and Secretary-Treasurer.

MR. KELLY: I thought perhaps that with the experience of someone who has been in the electrical business for a while to grant our views also, in this case I have come forward.

In my case, I have been associated with this field for twenty-five years, and have seen many of its ups and downs. I commend your Commissioners for taking on such an important task and trust that the "crystal ball" that you are going to use will ring true. I know there are likely those amongst us who believe there should be zero growth, or no growth in electrical demands, that the environment and ecology should never be disturbed. However, I would ask, "Are these likely to be the same people that will vociferously demand light when darkness comes across the face of Ontario?" The importance to a community of secure electrical service is most often taken for granted, and we, as a utility, are completely dependent on our supply of electrical energy from Ontario Hydro, through their generation

and transmission. When the electrical service is interrupted, it is amazing what it affects, and the inconveniences and the hazards it creates to many, many people. To get a true feeling for this, I just wish that you were able to answer my phone when a power outage occurs. The dependence on our system for lighting which, for instance, when removed, creates serious hazards to the elderly who must move about their homes, up and down stairs, in the dark, and the fear over some of the crippled who cannot move, or the feeling of the people who may be locked in an elevator somewhere, and the coldness that comes over a house at forty below, when no heat can be obtained, and the babies that are crying for a warm bottle, and the traffic hazards that are created for those walking and driving when there are no traffic lights or street lighting, the frustrated people who are in a crowded hall or arena, and must cancel that special occasion. Yes, it's too bad your Commission does not have the opportunity of talking with these highly concerned people during these emotional times. Fortunately, our hospital now has a generator, but at one time it didn't. How does a Utility ration the power to its customers under these duress conditions?

A number of years ago, prior to my time in that community, and before the formation of our Commission, the residents of that community received their power from Ontario Hydro and there are many tales related of the time when, in the middle of winter, with very serious

freezing conditions, high winds, etc., one of their large supply transformers blew and it was a number of days before they were able to get a replacement on site and connected to the system. They endeavoured to ration power out to certain customers that they could serve without blowing or overloading the remaining transformers. The tales that are told to this day of that episode, are ones which I am sure none of us want to go through.

I know there is a lot of contradictory discussion that emenated from the Energy Board Hearings by politicians, industry and those in Utilities, et cetera, with some politicians, attempting to minimize expansion and hold rates on the one hand, while Utilities advising that their loads are increasing and they need the extra power to meet those increased loads on the other hand. I submit to you, it is the public at large that is now making those demands and it is that same public attitude that must be changed in order to limit those demands and accept the costs.

When Utilities forecast loads or Ontario Hydro forecasts anything, there is always the tendency to say, "Oh, no, they don't need that, or they'll likely not use that, or maybe this will change." I think the past record over a period of sixty years indicates those forecasts have been pretty fair. Another item that affects this forecasting, is the time and cost of public participation hearings and the associated studies, et cetera. I might add

here, that personally, I'm in favour of public participation but in a better manner. However, people who believe in this philosophy must be made to realize that this process increases the time and cost with which a project, whether it be a generating station or transmission line, can be initiated and finally come into being. They must be willing to accept this total cost. It has also become apparent that these projects must be initiated earlier in order to allow for these delays. Hence, the effect on added cost and the greater possibility of error in forecasting. The public, generally, do not seem to grasp the fact that deferrals or delays compound the already huge capital sums needed.

As you perhaps know, the production of electricity is a hightly capital intensive industry. The food industry,we understand, invests a small percentage of a dollar in plant for every dollar of annual revenue. The steel industry investment is about one dollar of plant for every dollar of annual revenue, whereas the Ontario Hydro requires in the order of $7.00 of plant for every dollar of annual revenue -- a considerable difference and indeed and hence, its high impact on the rate structure.

However, what bothers me is the lack of a national energy policy so that the energy source can be matched to its best utilization. As we go into the future, there is no way that we are going to be able to attach a long extension cord to our Air Canada jets or any others and that

type of fuel is going to be needed for some time to come. There are many types of fuels that seem specifically adapted for certain purposes and it is too bad that a lot of them are channeled into other areas where the need, perhaps, isn't as great. Compounding that with the projected general shortage of fossil fuel resources, gas, oil, coal, et cetera, people have already started shifting to more elctrification, and if this continues, then the forecasting of loads and capital requirements are going to be ever paramount.

One of the fortunate things in the last while has been that nuclear power has been developed in Canada and here in Ontario, and that it's fuel source is uranium which is also indigenous to Ontario, and to me, we are not moving into that area fast enough -- we are using up other sources of energy which could be better applied to other needs. I can see some of the fossil fuels being diverted to many different usages and many more essential than the ones they are presently being used for. The need for government supported research into alternative sources of energy, to me, is a very high priority and one which your Commission, I feel, should make strong recommendations.

The attitude towards energy conservation is gradually starting to catch on, but must cover <u>all</u> forms of energy and not just electricity. There is an increased need for this attitude on <u>all</u> fuels, to be realized throughout Ontario, Canada and throughout the world. All

governments need to play an effective role in this area. I might add that the electrical utilities have shown leadership in this area by their dev eloping and promoting high insulation standards for many years. I might also suggest that other energy suppliers and a revision of the building code might ensure the provision of the highest practical standards of thermal insulation for all heated structures, hence, an energy saving to all of us.

A Hydro Utility must meet the needs of that community. Similarly, the joint needs of all the communities in Ontario, of which there are some 354, must be met by Ontario Hydro's generation and transmission. Within our Municipal Utilities, the Utility does not have control over the shift of energy, for it is the public at large that determines this course. Your Commission, however, can have a major effect in this direction.

In conclusion, I wish you and your Commission every success in your deliverations for it will have considerable impact on our ability to ensure an electrical supply to all our people and I trust that the electrical utilities' needs and specifically those of Atikokan will be met for the foreseeable future.

THE CHAIRMAN: Thank you very much, Mr. Kelly. The Commission appreciates that you and two or three others have driven over 130 miles for this Hearing. We can't visit every community in Ontario as much as we would

like to, and we are very appreciative that you would come.

I have one question; you made reference to the possibility of conversion to electricity in electric heating affecting the rate of growth on the Ontario Hydro system. Can you tell me in Atikokan what the percentage of saturation of new residential houses would be with electric heating?

MR. KELLY: As you know, our community has been relatively stagnant for a number of years. In the last year our forecast for growth changed to next year with an increase of fifty percent. Now, this is due to a large industry. There are number of other purposes there, the attempt to maintain the community in a viable situation. As you know, we were a mining town, perhaps there was a shift out of that. But in the last rural subdivision that has been built, about thirty percent, just off the top of my head, will be building homes with -- some of them very high loads.

THE CHAIRMAN: Thank you.

MADAM SOLANGE PLOURD-GAGNON: You mentioned you were in favour of public participation but in a better manner. Can you elaborate?

MR. KELLY: Some of the delays in the Hearings that were taken in the South wait about a year or two years in order for some action to be taken. It seems to me to be too long a wait in this situation. I realize even with your work that you are going to be two years. It seems so long.

Somehow there has got to be a better situation so those things can move faster.

DR. ROSEHART: On Page 2 you comment on the quality of service, the importance of good reliable service. How would you rate the service in Atikokan? I realize you may be somewhat biased.

MR. KELLY: I am biased. We have a fairly good system.

DR. ROSEHART: There has been a lot of comment that the electrical service into Northwestern Ontario may be not as reliable as other parts of Ontario because of inter-connection with Manitoba.

MR. KELLY: Yes, we find we have interruptions.

DR. ROSEHART: One final question. Do you service the mines directly, or is it a direct customer of Ontario Hydro?

MR. KELLY: The two mines are a direct customer of Ontario Hydro.

THE CHAIRMAN: Thank you very much, Mr. Kelly. Perhaps we will have one more submission before coffee. Is Mr. Marak here?

MR. MARAK: Yes.

Mr. Chairman, ladies and gentlemen, I must apologize for one misunderstanding, and that is that I instructed Mr. Costello that I will not have any Brief to you

in writing here. However, while I am here, I will take five minutes just to say what I feel personally. May I do so?

THE CHAIRMAN: Certainly.

MR. MARAK: Mr. Chairman, one thing which bothers me as a Northerner, and that is the waste of our energy. I am a professional Forester. I consider myself as a true Northerner. When I see how we are wasting our resources in general, and I think this is not a new phenomena, because it was mentioned in many Briefs before, I am embarrassed. I feel the time is coming when the old way of life should change, and a new Canadian way of life should be preservation and conservation.

We have to consider our requirements for energy, however, the last report which was done several weeks ago on the waste of energy in industry, and you are aware of it, possibly, the waste of energy which is done by our government and any time that I go through Toronto, I see skyscrapers lit up all night, and I start wondering where our energy is really channelled and why.

I think, number two, we should use our imagination and start looking for alternatives. I am not quite sure that the nuclear energy is the safest, neither the best. Maybe in up North where we have a vast resource in how to utilize potential like the forest industry, we should channel our efforts into new ways of utilizing our wood.

Maybe the proto-type of plant which is in the State of Maine should be looked upon and examined. I wish

to have the Commission look at all these possibilities and channel their efforts towards it. Thank you.

THE CHAIRMAN: Thank you very much, Mr. Marak. Could you just explain to us the plant that you are referring to in the State of Maine?

MR. MARAK: This plant is based on the utilization of methanol which is a wood product. While this enterprise is still in the experimental stage, it seems to me that all articles I read about it are saying that in case of fossil fuels will reach the price of, say, one dollar a gallon, that this approach will be quite feasible and economical. I am in touch with some people at the University and I have been in touch with some people at the Research Council, and it seems like there is another field, this should be considered.

We have in Northwestern Ontario -- especially Northwestern Ontario -- a large area of stands, and I am talking about wood, forest, which are very capable for production of good materials. I am talking about wood. Our pulp and paper industry is not utilizing this now. Our new industry are also not utilizing this, say, for the next twenty years, and I think this should be utilized. Why can't we channel this into that?

THE CHAIRMAN: Thank you very much.

MR. COSTELLO: I understand Great Lakes Craft Mill will be using birch and hardwood. It is a hardwood craft mill. I also understand, from talking to Doug

Drysdale in Toronto, that 85 percent of the allowable softwood cut is being used, on the other hand, I guess we are leaving half of it in the bush, so there is still a lot to be used. I think about 50 percent of the allowable cut of hardwood is being used. Again, we leave a lot of the tree in the bush and only bring in the bigger pieces.

This plant in Maine, is ---

MR. MARAK: That's correct. I just got some news on it lately because this is very new, but we must realize during the War the Germans were feeding industry for many, many years, and I suppose we all know that in thirty years we made some progress and we should be following some of these examples.

Mr. Costello, I would also like to point out to you that while we have a real demand for wood, we still are not utilizing this vast area of stands which are extremely low potential.

MR. COSTELLO: You mean wastage of a lot?

MR. MARAK: It is rotten. It is very small, low-yield stands which definitely should be utilized now before they fall down. There is no demand that I can see in the future for these kinds of materials. This is what bothers me, because if we do not utilize them, we definitely are going to lose them. As you know, if you don't burn it, it will come down in very poor pieces, and so on, that is a waste. Thank

you very much.

MR. COSTELLO: Thank you.

THE CHAIRMAN: Thank you, Mr. Marak.

We will now adjourn for what I hope will be no more than fifteen minutes for coffee and that will mean we will recommence at twenty minutes to four.

--- SHORT ADJOURNMENT.

--- UPON RESUMING AT 4:40 P.M.

DR. PORTER: Ladies and gentlemen, may we come to order, please. Very temporarily I am taking over the Chair with the special purpose of welcoming the students -- I think most of them from Atikokan. You are the largest group of students who have met with the Commission to date. We feel very privileged that you have come along, because, as we have been saying from time to time, this Commission is concerned with a time period stretching to the end of this century, at which time both of you will be in the driver's seat in a very real sense. It is encouraging to us that your teachers and yourselves should have taken the time out during, I suppose, the period of Christmas examinations looming up and spend a couple of hours with us here in the Thunder Bay preliminary public meeting. Thank you very much for coming.

DR. STEVENSON: Are there also some students from Armstrong today? If there is anyone here from Armstrong, please hold up your hands.

I know the delegation is back there. I am referring to the children. We have no children from Armstrong.

That brings us to the Armstrong delegation. Gentlemen, I understand you have appointed a spokesman; is that correct?

MR. PARROT: Yes.

THE CHAIRMAN: Would you come forward, sir. Are you Professor Hart by any chance?

MR. PARROT: No, I am just John Parrot.

THE CHAIRMAN: Okay. Please proceed.

MR. PARROT: I have come down to this Commission meeting, or Hearing, as you might call it. I didn't know what to expect. It is my first. I am speaking on behalf of Armstrong, and if you don't know where Armstrong is, it is 160 miles straight north of Thunder Bay. There is no town past it, and there is no town until you hit Thunder Bay. I have been listening to a lot of Briefs. They are talking about Hydro power, Hydrogen power, all these kinds of new fangled things. As it is outlined in the circular, they are trying to figure out what they need for a long-range term for Hydro.

We of Armstrong needed it five years ago. We don't have enough power in our town, and before I get through this, I might get thrown out. I just want to say that we have talked to Ontario Hydro many times and they just turned us

thumbs down. It is a forgotten place.

As outlined in the circular, Briefs are being accepted on Hydro needs of Ontario over a long-range programme. In Armstrong the need is immediate. The existing units cannot supply the present needs of Armstrong, let alone the future needs. Several businesses are attempting to expand and are stalled due to power shortages. We can't even use our Recreational Centre because we don't have power.

With the exception of three communities in the Province of Ontario, a full supply of power for whatever their needs -- excuse me. With the exception of three communities, the Province of Ontario has a full supply of Hydro power for whatever their needs. It is not correct for the residents of Armstrong to have rights to essential services such as sufficient power for their homes at a rate comparable to any place in Ontario.

It was said at a meeting in Armstrong on March 5th, '75, that "the base generators ...", the base being the Canadian Armed Forces base that was recently sold " ... will continue to supply power to the schools, seven homes and the provincial offices until June,'75, then other arrangements will have to be made." You will note that there is power supplied to provincial offices.

It is anticipated it will take Ontario Hydro eighteen months to replace the power. That was nine months ago. At the present time, Armstrong has four

separate sources of power. All together, these four units cannot provide Armstrong's present needs.

In view of the Government's plea that Canadians make a united effort to save energy at all times, it is not ridiculous to have four units operating at one time, rather we should have a central station set up as a large unit to produce enough power to provide all of Armstrong's needs, and with some left over for future developments. We also have the purchasers of the former Canadian Armed Forces base. They have been negotiating with potential industries to locate on their premises, but negotiations are stalled when asked if there is sufficient Hydro power available.

Gentlemen, to sum up the situation, it would appear with the exception of Mr. J. Stokes, that is our M.P. for Nipigon, Armstrong is a forgotten place. As a Toronto newspaper put it earlier this year, there are places in Northwestern Ontario that are cesspools of misery. I ask you, gentlemen, what can be done to ensure Armstrong has access to essential services in the North, one of which is Hydro power, at a cost of that comparable to that enjoyed by other residents of the Province.

Hydro told a meeting in Armstrong that when Hydro was needed, they would see to it that Hydro -- that Armstrong received it. The need was there when that was said and it is becoming more desperate all the time. We

deserve an explanation from the Ontario Government and from Ontario Hydro as to why we are being denied sufficient hydro at reasonable cost.

Please make it a point to come and see us, respectfully submitted, J. Parrot, Representative.

THE CHAIRMAN: Thank you, Mr. Parrot. The case you make is unique so far in the deliberations of this Commission. I gather that the problem has been that there has been a recent closing of the Canadian Armed Forces base which provided part of the town's supply of electricity, and what has happened to the diesel generator that was part of that facility?

MR. PARROT: Well, to begin with, the base did not supply part of the town outside of seven houses and the provincial offices. At the present time we have a supply -- a limited supply I might say -- from Canadian National. They are giving all they have got on their machines, and they are much much larger than the Government has recently put in, but they can't do it all without a little help.

Sometimes I wonder -- and this is only my own opinion, because I work for Canadian National and have no affiliation on the Hydro bit -- whether it wouldn't be cheap -- or cheaper -- or reasonably cheaper -- for Hydro and the Ontario Government to toss in a few shekles, and give C.N. an extra machine. This would answer immediate problems, and I believe the cheapest way you could do it.

As to the generators at the base, the generators were there, as the Brief says, to June. The purchasers of the base shipped them out.

Why this happened, or what, I don't know, but I hazard a guess. It seems to me that the Ontario Government kind of fell down in their footsteps there. When the base was up for sale, I believe they had a chance to get those generators. I could be wrong, but, however, that is what happened to the generators. They were shipped out.

THE CHAIRMAN: Now, the Government diesel that you referred to, owned by the Ontario Government, is that providing an adequate supply, or what is the problem with the new Government diesel?

MR. PARROT: The Government diesel that has just recently been put in is in at Natural Resources to ensure Natural Resources sufficient power should something happen to the machine that is operating now out of the airport. It is supposed to be replacing the base power.

DR. ROSEHART: Have you had discussions with Ontario recently about the addition of another generating station, or diesel unit in Armstrong?

MR. PARROT: We haven't talked about that at all except we had a meeting on March 5th of this year. However, at those meetings -- I don't really believe that we got to talk to anybody that could do anything for us. From the outset, if somebody sends somebody to Armstrong to talk to us about power, please, don't send us any con men. We have been

conned by experts before and we have got nowhere.

The thing that Hydro stresses was the cost, the cost, the cost. We can't go along with the cost, we are not enough people to pay for it all, and why should they concern themselves? They have other places to make up the revenues.

MR. DUPUIS: Sir, we have made presentations to Ontario Hydro. The last presentation was made in July of last year -- July of '75, pardon me.

DR. ROSEHART: Several months ago there was a fairly visible project by the Ontario Ministry -- the Ministry of Energy with respect to a wind power study for possible applications in communities such as Armstrong. Were you people involved in that at all, or consulted at all?

MR. PARROT: They just told us about it. They just told us about it and said it would be a great thing, and then they forgot it.

DR. PORTER: What is the total capacity available right now, in the order of five hundred kilowatts, is that about it?

MR. DUPUIS: If you want to take into consideration the four units that are operating, the C.N.R. is operating 250 kilowatts, the Government services are operating 100 kilowatts, the Government services is operating a 75 kilowatts, Government services is operating a 50 kilowatt,

they are all at maximum.

DR. PORTER: I guess it is pretty good.

DR. STEVENSON: I understand you are about 100 miles from the nearest source of line supply from Ontario Hydro?

MR. PARROT: That's right.

THE CHAIRMAN: So that has line supply now, that is sixty miles from Armstrong?

MR. DUPUIS: And Arrowland also has land supplies. This is about 72 miles. The lumber camp has hydro lines. And they are, as the crow flies, 48 miles.

THE CHAIRMAN: Does the Sevant Lakes apply sufficiently size so that one could extend it and cross it across-country to Armstrong, do you know?

MR. DUPUIS: I couldn't tell you for sure. I don't know if they went on high line or if they went on smaller. They just recently had the hydro extended to there.

MR. COSTELLO: The last word we had is that it was not sufficient.

DR. ROSEHART: What is the population of Armstrong?

MR. PARROT: Oh, 500 people, taking dogs and cats. Really we have about 500 people, but I realize the questions you are asking, and I can see they are all very

good, but I doubt that there is anybody in this room that can honestly get up and say that when they go home they can't reach inside a door and put on a button and get some hydro. I can point you out many people in Armstrong that would like hydro but they can't get it. Also you might keep in mind -- you might remind the other Government officials and all -- you might be flying a plane over Armstrong one day and might have to make an emergency landing at night. We don't have any lights to light up the airport there because of the lack of power. But the Armstrong people have been going out there after night and lighting up the runways for planes to come in with their own headlights from cars. It is kind of desperate when these things happen. Maybe we have to wait until somebody gets kiddled to remedy the situation. Plus give the people of Armstrong the proper things to live properly like you people here do.

DR. ROSEHART: Recently Ontario Hydro put lines into Sevant Lake, and I believe you mentioned the line is going to Moosonee. Why do you not believe that this, in fact, could happen at Armstrong?

MR. DUPUIS: Every time we made a presentation to Hydro they have intimidated the people by saying that the cost could be in excess of twenty-two cents per kilowatt for Hydro to come into Armstrong. They have always taken a negative approach every time they came in. It is the case of the chicken and the egg. You show us what

is going to happen in Armstrong and maybe we will consider putting power in. It is not a case of okay, here is the power, now let's start generating industry for your area.

MR. PARROT: Another fine example is, I went around and got a petition and met a lot of people who didn't have hydro and people who had a little bit of hydro and wished they had more. They can't run freezers or any such things as this. You are limited in Armstrong, even with the hydro you have got.

In speaking to some of the older residents, people I really wish could have been represented. They are afraid to put their names on just a petition because they are afraid -- they said that Hydro was in here and they told us that it was going to cost us at least eighteen cents a kilowatt and we are paying too much now, but we will go along with eight cents rather than eighteen. This is intimidation if I ever heard of it, in my book anyway.

The whole source of it is, let me not keep you longer, we need hydro in Armstrong and that is the number one need in Armstrong. We cannot do anything in Armstrong to help ourselves. If somebody wants to fix up his house, he needs hydro. The Armstrong Development Corporation has two lots they are supposed to put houses on within the next year, but they can't do it because, what do you do, you have no hydro, you build a house and you light it with candles.

It doesn't matter what Hydro or what Ontario Government thinks or says. Armstrong's number

one need is hydo, and we can't even have a dance up there.

I guess we could if we turned the headlights on of our cars. We have no recreation. We have a beautiful curling rink there, but we don't have power to power it. It was given to the town, given to the town.

I guess everybody here at one time or other this week will be able to go out for a little recreation, all they have to do is walk down the street. We don't have it.

MADAM PLOURD-GAGNON: Do you think the population of Armstrong eventually will increase?

MR. PARROT: I believe that Armstrong will grow. It won't grow large. I do hope to God it never grows large, not like a city, nor like a large town, but there is no doubt that Armstrong has to get larger because we have Domtar coming in. Domtar, again, as I might add, I spoke to the Logging Superintendent and they are considering bringing in another unit to power for them. This is all so ridiculous and it has got to get bigger because with the base people trying their best, to give us hydro, I would say in another year we will have fifty families more. If they will give us the things to work with, that is.

THE CHAIRMAN: I wonder whether the other gentleman with you would identify himself?

MR. DUPUIS: Ed Dupuis, one of the purchasers of the radar station in Armstrong.

We had letters, when we were utilizing

power from Government services, and we were notified back in October that we would be cut off as soon as the Government could split the two diesels.

I brought this matter straight to Premier Davis and I still haven't had any satisfaction.

THE CHAIRMAN: Well, Messrs. Parrot and Dupuis, all we can do is say that we will take this message back to Queen's Park, and in our report to the Government, we will try to explain the situation as you have explained it to us. Thank you very much for a very interesting submission.

MADAM PLOURD-GAGNON: You are French?

MR. DUPUIS: I am French like an Irishman.

MADAM PLOURD-GAGNON: You don't speak French?

MR. DUPUIS: No.

MADAM PLOURD-GAGNON: How many French families are there in Armstrong?

MR. DUPUIS: The ones that admit to being French?

MADAM PLOURD-GAGNON: Yes.

MR. DUPUIS: Five or six.

MADAM PLOURD-GAGNON: Thank you.

MR. DUPUIS: One thing. A few people forget the name of Armstrong. Just remember the black part of the province as Armstrong. Thank you.

THE CHAIRMAN: The Professor Hart from Lakehead University. Sorry I had you in with the Armstrong delegation, Professor Hart. It is just a little --

DR. HART: They have worse troubles than we have. I must, if the Commission will allow me, make a little explanation. We prepared -- or started to prepare a Brief that would be useful to the Commission, but unfortunately an advertisement appeared on November 28th which appeared to render our Brief somewhat redundant. We have provided the Brief for you, however. I would like to read a revised Brief that we prepared and then, if there is time remaining, pick out some of the main points from the major Brief that we had begun to prepare.

Lakehead University serves the entire Northwestern Ontario region. From the very nature of a University, it should be the prime centre of informed criticism. The Faculty of Science started to prepare a written brief: this brief was summarily rendered quiescent by the newspaper announcement of Friday, November 28th. However, we feel that our progress so far might be useful to the Commission.

Referring to the advertisement of the Commission -- General Issues ("2") -- The general issues which the Commission ought to discuss transcend the specific terms of reference as we understand them. Particularly in Northwestern Ontario with its Continental climate, vast

distances, difficult terrain and small isolated communities, it is impossible to discuss electricity without at the same time considering the utilization of fossil fuels. For example, many communities rely on seasonal shipments of oil. More generally, the Commission should study the availability of the premium fuels, gas and oil, which will in the long run have to be reserved for premium functions (e.g. lubrication; feed stocks). The establishment of a Royal Commission to study electricity alone might have been appropriate in 1969; it does not fulfill the requirements of 1975, and will be totally inadequate for 1983, which is, of course, not to put down the Commission itself.

The Commission must study the security and safety of supplies including, of course, environmental damage. It must do this in the light of the resistance b y residents of this district to change their traditional life styles on the one hand, and the desire to participate in the products of the affluent society on the other. In particular, the native peoples must have every opportunity to make their voices heard.

The efficient utilizsaton of energy should be a prime topic. In this connection, social expectations are important: there is a substantial body of fact that indicates an impending fall in material expectations. The Commission and similar bodies may be expected to influence our life styles, which are more diverse in Northern than in

Southern Ontario.

There is some indication that load-shedding (that is, brown-outs and blackouts) may be necessary: we wonder whether sufficient information is available on this subject?

Finally, we believe that the terms of reference should be extended to cover the period up to 1983. This will be the critical period for Northwestern Ontario, with major shifts in industrialization, the erection of a new town (at Lake St. Joseph), the decline of existing communities (already, one town is virtually bankrupt), and the realization by the general public that oil wells are not bottomless. There is a newspaper clipping about the new town in the Appendix.

Now to your point "3".

The vast territory of Northwestern Ontario cannot be covered b y standard methods. We are gratified that the Commission is to visit Kenora, but we regret that there appears to have been little thought given to the difficulties of communication and transportation in the district. Was the belated appearance of the advertisement in the local newspapers accompanied by a similar communication in, say, Sandy Lake? Was any effort made to ensure that funds were provided for native representativ es to get to Kenora or Thunder Bay? Were there any Indians here this afternoon? If not, every effort should be made to correct the situation. We suggest that it would do no harm for the Commission to at least stay for two nights in such a community,

using the normal transportation methods (viz., bush plane) to get in and out.

The main Brief, Mr. Chairman, if you would stop me -- I will be selective.

THE CHAIRMAN: I think you are in the best position to do that.

DR. HART: Lakehead University has for its constituency a huge area stretching roughly from Wawa in the East to Kenora and Rainy River in the West, including all terrritory between the international border and James Bay.

I then go on to talk about the importance of forest products, mining of a primary industry, and the fact that these are a large part of the primary income of Northern Ontario as a whole.

I can skip the public relations statement and go on to this.

THE CHAIRMAN: We will undertake to read it.

DR. HART: It is well known in Northwestern Ontario, though insufficiently appreciated in Toronto, that the populace tend to feel that Governments and utility organizations do not understand the importance of this area to the economic well-being of the Province. As an example of this extraordinary indifference, we would like to refer the Commission to the Preliminary Submission of Ontario

Hydro dated May 1, 1975, which appears, as far as we can determine, to ignore the area west of the 85th meridian.

In the preparation of this Brief, we have been confronted by a familiar difficulty; the lack of statistical information about the region. Although individual companies are, on the whole, quite willing to co-operate, the collection of such figures as the total consumption of oil products is a major task.

Thunder Bay contains a splendid example of the pre-science, or serendipity of Ontario Hydro. The thermal station on Mission Island was built many years before it was needed, the supply from the hydraulic stations being adequate for longer than was forecast, a result of unexpected temporary industrial stagnation.

This raises the question of the balance between the transportation of solid fuel and the transportation of electricity. The shift in energy patterns, particularly the increased volume of coal passing from west to east, to be transhipped at the new coal dock at Thunder Bay does present certain difficulties which are as yet barely appreciated. Some communities -- Pickle Lake is the outstanding example -- are served by very long transmission lines erected over difficult terrain. Generally speaking, generating stations are not built within or close to isolated communities. The attempt by Ontario Hydro to invite public participation in the establishment of a new thermal station resulted in the establishment of Atikokan as the site for the new station. That

I hope is why you are here this afternoon.

We have already mentioned the delay in bringing the Thunder Bay plant into operation, which examplifies the problem of planning in a one- or two-industry district. Local officiaos who are responsible for the prediction of load growth agree by and large that this is an extremely difficult area in which to forecast. Under these circumstances, government planning becomes very important, even paramount: consequently, in the absence of broader planning by the Government it may be risky to plan electrical development for five years ahead, and impossible to plan ten years ahead. For example, because of an industry-wide strike in the paper mills, Ontario Hydro is in effect shipping a considerable quantity of energy direct from Manitoba to Toronto.

It would be plausible to suppose that the development of the area could be enhanced by the development of energy availability, but the example of the Thunder Bay thermal station demonstrates that this is not necessarily so: the major driving forces are crude economics. Incidentally, the Thunder Bay station has been relatively expensive to operate, a situation that will no doubt ameliorate as Western coal becomes available.

There is little doubt that CANDU stations will be needed within the coming decade. The development of CANDU has been a remarkable achievement, and it is a pity that the developers have been somewhat insensitive

to the justifiable criticisms of the potential safety and security risks. With the conventional wisdom, there should be no difficulty in finding sites for stations which will satisfy almost all environmentalists, for the terrain has massive water supplies in sparsely populated areas. For thermal plants, the situation will not be as clear until the question of atmospheric pollution by sulpher products has been settled. I have more to say about sulpher later.

There is then a section on the specifics of energy and the point is made very strongly already this afternoon that Hydro thermal stations, that includes, of course, nuclear stations, are very very insufficient. A great deal of the heat is wasted. The Statistics Canada figures, which are quite reliable on this matter, refer to seven percent of the input energy is rejected by the thermal station.

To turn to Page 10, Thunder Bay is a classic example of towns that "just growed": industrial, commercial and residential land use are jumbled up, and air, water and noise pollution are rampant: most towns in the area are even less well off.

The traditional life-style in the district is characterized by the single family dwelling, and for the foreseeable future, that will continue to be the norm for most families. However, there have recently been completed in Thunder Bay a number of large apartment blocks, whose occupancy is virtually one hundred percent, so it does appear that apartment living is acceptable to a sizeable proportion of the population.

We suggest that a totally new concept of a community be planned as a townsite in Northwestern Ontario. We propose that a functionally efficient town of between ten and fifty thousand people be planned, preferably in connection with one of the many proposed primary products developments. We have in mind, particularly, the efficient conversion and utilization of energy as a prime requirement. TEIGA has already hired consultants to make a $150,000 study of a new 10,000 population town in the Lake St. Joseph region. Experience all over the world suggests that gloomy prognostications about planned new towns are seldom fulfilled: we suggest that a total feasibility study be made of a new town to be planned as a functional unit, with a major design parameter to involve the efficient production and utilization of energy.

The rest of the Brief refers to the fact that most Northern Ontario cities are two-dimensional lamina, which constitutes the worst possible configuration for the horizontal transmission of heat from a power station to the consumer, and also the worst possible transmission from the space heated to the atmosphere.

We propose in our Brief the alternative of two-dimensional and three-dimensional planned cities, planned specifically for energy utilization, but as often happens in functional planning, such towns would have a minimum impact on the life of the native people of the district.

There are suggested plans in the back which I am sure you will all recognize are more optomistic.

THE CHAIRMAN: Thank you, Professor Hart. We were looking through them just after lunch and we realized we wouldn't have time to even ask you intelligent questions about them this afternoon, but that doesn't mean that we can't get back to you from Toronto, if necessary.

DR. PORTER: I would only like to say, perhaps, Professor Hart, that it is encouraging that the Faculty of a great university should participate as you have done. In fact, it is only the second time that this has happened. Unfortunately, the other time was my own university presenting a Brief in Toronto. Perhaps it was very right that, because of our good friend, Bob Rosehart, who is a member of your Faculty, of course, that he should be so closely involved with us that Lakehead University should provide us with this submission.

I am sure we will be back to you about various points you have raised, and for my part, I am most grateful for the time and efforts that you have put into this submission.

THE CHAIRMAN: I think we also will observe the statements with which you opened your submission today about the importance of a special effort to alert not only the native peoples, but people living in the

remote communities of north-western Ontario.

DR. ROSEHART: If I might respond to that, Mr. Chairman, I believe that this is one of the most neglected and potentially most explosive areas in the province.

Now, please don't suggest that I am making a specific prognostication, I am not, but on native people programmes on the radio, and in the native peoples' newspapers, there is an awareness that meetings like this do not sufficiently allow them representation, and they feel their life styles are terribly terribly in danger.

THE CHAIRMAN: I see. I wish we had time to ---

DR. ROSEHART: On Page 13 you truncate the brief based on -- perhaps on the understanding of what the Commission more than at this stage. I think the Commission will encourage you to finish the submission, and I am quite sure sometime in the next few months the Commission will be returning to Thunder Bay.

DR. HART: Thank you, Bob.

MR. McCAGUE: Dr. Hart, where you get into the introduction, you make reference to the broad area that is served by Lakehead University. What is that area, roughly?

DR. HART: There is not, roughly about a quarter of a million square miles.

MR. COSTELLO: Dr. Hart, you mention the Thunder Bay station as being a relatively expensive generating station to operate. I wasn't aware of that. Could you tell us the reason why?

DR. HART: I am not sure I am experienced here, and to be very careful, but I believe that (inaudible) has an effect on the Great Lakes, secondly the shipping cost has to be added.

Now, coal shipped in the reverse direction, the cost will come down.

MR. COSTELLO: Western coal isn't going to be cheap coming in by rail?

DR. HART: No energy is going to be cheap.

MR. COSTELLO: I am talking about the transportation cost now.

DR. HART: If I may, I don't wish to get into an argument with the Commission, but all aspects of energy consumption are going to become expensive compared with our standards today, that is why the faculty of Science referred to a withdrawal in the standard of our living.

MR. COSTELLO: I wouldn't disagree with you on that. Thank you.

THE CHAIRMAN: Just an observation as you are walking back, Professor Hart, a very competent local arrangement representative, Carol Buny told us that she has been in touch with the Office of the Federal Department of Indian Affairs here in Thunder Bay, and through that office attempted to contact some band chiefs in this area with what success, I guess it has not been great, because I don't see them here, but this attempt was made by telephone and meetings with the Federal Department of Indian Affairs.

DR. HART: Dr. Stevenson, if I may just briefly respond to that, that is precisely the kind of problem in communications to which I am referring. That was not the correct channel to go through.

DR. ROSEHART: Before you disappear, could you enlighten the Commission on what might be the correct approach?

DR. HART: Not in public, Bob.

THE CHAIRMAN: The next submission we have is from Mr. Ken McFarland from the People to Clean up Lake Superior.

MR. McFARLAND: Mr. Chairman, Commissioners, before I start, I would like to thank the local organizers of this Commission. They were very helpful and always accessible for any information I needed.

I have entitled my brief "One

Environmentalist's Opinion" because this is what it is going to be.

Before I start reading I would like to point out the graph on the upper right-hand corner of Page 1, which is a chart of the projected energy in Canada.

It seems that by the year 2000 -- by these predicted figures -- residential energy consumption is going to account for approximately 10% of energy consumption in Canada.

Hence, we have suggested that anything short of a foresighted approach or programme of energy conservation would be a serious oversight. Transportation, industrial and commercial energy users are all going to be, at least, doubling or tripling residential energy users in the future.

On first agreeing to present a brief to this Commission I thought my task would be a simple one. I fully expected to be able to assess the environmental impact of the different types of electrical energy-producing systems, make a quick comparison, and suggest my favourite as the one to be given consideration.

Such was not the case, all the systems I investigated I found to be damaging. Thermal systems I found to be sulphur-dioxide emissive but thermo clinal conditions inducive. CANDU reactors are found to

be not only downright scary in their radio-active waste destructive potential, but even more thermoclinally harmful. Hydro electric stations are found to be the most eco-system damaging and land potential wastive. To the best of my knowledge, a natural gas fueled thermal station is the least destructive of systems presently used in Ontario.

Armed with this knowledge I began a financial study looking at the feasibility as well as the projected fuel cost. The result of the study was extremely disheartening. By projected figures it seems that by 1985 we could be using almost double our present consumption of electricity. Half of our demand is going to be met by fossil fuel stations, over one-third by nuclear stations, and less than 15% by Hydro-electric stations. The fossil fuel stations will probably be mostly fueled by American high-grade coal with oil running second and natural gas in one or two areas. Nuclear reactors will probably be running on Canadian uranium and heavy water. Hydro Electric stations will be on their way to antiquity. No other types of fuel seem likely to be useful for the amount of production required.

Keeping in mind that the practicality in the energy business means meeting the demand and keeping the books in the black, Ontario has a problem. Fossil fuel prices are going up; by how much is anybody's guess. The

CANDU reactor with its sloppy fision method is destined to be an antique, maybe as soon as the turn of the century. Hydro electric stations are already unviable economically. A wide scale alternative, at a decent cost, is not presently available.

The controversy over nuclear reactors has been going on for quite some time now. Most power corporations tend to believe nuclear power to be the answer for the future; being the most informed and interested, they can usually present a strong case in their favour. I, for one, tend to think that the potential hazard of a large scale accident, as well as the long-term threat of radio-active waste, make it a wise idea to hold back on large scale implementation of the fision-type reactor.

The half life of the uranium is 1600 years. Ontario Hydro may be presently staffed with considerate, well-meaning, environmentally sensitive individuals but they would have a hard time convincing me that the administration of waste and reactors will be in equally as competent hands for the next century and a half (much less 16 centuries).

Air pollution is a grave and pressing problem. Finite fossil fuel resources is an acute present consideration. Energy supply for the predicted boom of the 80's if fast becoming an every-greater worry

but lethal uranium wastes are and will be a problem of extremest priority for 16 centuries. What gives the present administration of our power corporations the right to put the next 50 generations in a position of jeopardy? When a system is developed to produce unlimited energy from a non-finite, non-threatening source, a lot of resentment may develop toward the irreversible steps being taken today.

I may differ from a lot of environmentalists in my belief that a technology has the potential to solve the problems it has created. I can find very little agreement amongst my peers with my view that nuclear energy could be a viable alternative; most seem to think of it as too high a risk area to be developed any further. If the re-cycling system for radioactive wastes were to be developed, as well as a fusion-type reactor, I would be willing to re-open my mind to the idea of a nuclear power plants.

Considering Ontario's present commitments to fuel suppliers as well as the return expected by the developers of nuclear systems presently available, my recommendation will probably be considered to be of little practical value. I will make them all the same.

Ontario Hydro should make the minimum possible expansion in the 1980's. Reserves should be kept at a bare minimum of, say, 15-20%. No new contracts should be given for construction of fision reactors. Ontario

lignite should be investigated more thoroughly as a possible alternative fuel source in the future. Research budgets should be increased. Methane systems should be considered wherever sewage exists in large enough quantities to supply adequate fuel. Pollution standards should be raised: the present standards of the Ministry of Environment could be adequate in an areas where only one or two industries exist but the communitive effect of many industries in one area producing the same pollutant produce very unfavourable conditions. This holds particularly true for sulphur-dioxide and thermopollution. Finally, fossil fuel plants, especially coal-fueled types, should be given priority over CANDU-type reactors for the immediate future. In effect what I am advocating is conservatism with an emphasis on conservation. I think Ontario Hydro should wait for a system to develop which will show still less risk before it makes any further major commitments as to nuclear energy.

1983 may very well be too late to start a prudent, methodical nuclear policy, we will know soon. Nuclear power is more than an answer to the energy needs of the times,it is a commitment to 16 centuries of vigilance and threat.

There is a closing remark, the United States plans to supply about 25% of its electrical energy needs with nuclear power by 2000. Ontario is aiming

to supply about 75% of our electrical energy with nuclear power by 2000.

THE CHAIRMAN: Thank you, Mr. McFarland. This was a very thoughtful brief. I guess the reason for that last statistic, quite apart from safety considerations, would simply be based on the fact that Ontario has no fossil fuels except the lignite you mentioned, but a fair amount of uranium, and the reverse is true, relatively speaking, in the United States.

MR. McFARLAND: The fact is, no, that will just about put Ontario as a continental leader in nuclear energy by 2000, if not the continental leader. I think Ontario should be holding back and waiting and watching. Whether to take the lead in something this risky and dangerous ---

THE CHAIRMAN: I was glad to see you say that you are prepared, in effect, to put up with all the fossil stations, their problems, air pollution and their dependence on adequate supplies and fuel types which you know about obviously, and you are prepared to put up with that problem to reduce the dependency on nuclear power stations.

MR. McFARLAND: Well, the pollutants from fossil fuel stations, thermo clinal conditions that occur, the sulphur dioxide and other things that are coming out

of the smoke stacks, etc., are present problems. Those areas that are polluted by those means can be regenerated in much less than 1600 years. Sulphur dioxide is a sterilizing agent in many waterways and impedes the development of many of the species that are in the waterways. Thermo clinal conditions, of course, promote species that are foreign to the waterways, at least are not as abundant in areas that are not thermo clinally affected to develop, and these things, once the plant starts operating, within just a couple of generations, will bring themselves back to normal, presuming the rest of the environment is in very good shape.

THE CHAIRMAN: Thank you very much. Are there any other questions of Mr. McFarland?

DR. PORTER: Mr. McFarland, you obviously have done a lot of research in getting this submission together. That is the sign of real public participation. I mean, this is, hopefully, what we are going to see in many places across the province.

There is just one point you mentioned here. You say that Hydro electric stations are already unviable economically. I presume you mean here any new plants to be built rather than existing ones?

MR. McFARLAND: Yes.

DR. STEVENSON: One last question. How many members are there in the Committee to clean up Lake

Superior?

MR. McFARLAND: People to Clean Up Lake Superior is a small citizens group unfunded except by our own resources, hence we are fairly incapable of branching out into organizations, there are perhaps thirty or forty.

DR. ROSEHART: What about project interface?

MR. McFARLAND: That is a local initiatives project coordinated to correct environmental energy, or environmental information of any sort on the entire area of north-western Ontario.

DR. ROSEHART: How many people would be involved in that?

MR. McFARLAND: We have three full-time workers.

DR. ROSEHART: Thank you very much, Mr. McFarland.

THE CHAIRMAN: The next submission is from Mr. Roger Pinkowski of the Thunder Country Conservation Club.

MR. PINKOWSKI: Mr. Chairman, Committee Members, ladies and gentlemen.

The residents of Ontario must preserve what is theirs. The residents of Ontario must protect what is theirs. The residents of Ontario must conserve what is theirs. We are number one.

We, the residents of Ontario, have pride in our Province and in everything that is in it, our land, our waters, our minerals, our resources and our people.

Each year, we, the residents of Ontario, have more demands. These demands must be heeded. One of these demands is the necessity of increased Hydro electric power. This need arose from our expanding growth.

The hour of decision is before us. We must closely scrutinize our demands. We must give these demands our utmost careful consideration as to how we must proceed in order to suffice our needs.

Shall we make a sacrifice for tomorrow's needs today?

Throughout our Province of Ontario, each year, farmlands are being depleted at an enormous rate. We are sacrificing valuable land for urban development, industry, transportation and energy transmission.

These absorptions of agricultural land today is seen as a feasible venture, but in the future a new problem will arise. We, the the populace of Ontario, will require this acreage of valuable farmland to produce food for our ever-growing population.

We are in favour of Hydro electric expansion as in the future it may be our sole source of energy.

Today's planning must be conducted in such a manner that we can avoid environmental damage.

The new proposed generating stations should be constructed in areas where the terrain is unsuitable for agriculture, urban development and recreation.

Demand for power seems to be prevalent throughout our province but the greatest need is the heavily-populated eastern portion.

More consideration should be given to our northern areas for construction of these sites and for future development and expansion for our province.

Future constructed generating stations should be designed in such a manner that they would avoid thermal and environmental biological pollution.

The era of dam buildings for Hydro projects should be a thing of the past. Dams have proved to be harmful ecologically, environmentally, and historically.

More money should be spent in constructing safety productive nuclear plants.

Generating plants using fossil fuels should be equipped with stacks containing scrubbers and the most up-to-date pollution abatement equipment. The abatement programme must be updated as techniques are advanced.

North-western Ontario bears the scars of indiscriminate cutting for transmission lines.

Before transmission projects are commenced there must be extensive planning and consultation with communities, industries and municipalities.

Argricultural and recreational land must be protected for our future generations. Future Hydro would be of no use to us if it damages our agricultural areas since we cannot eat Hydro electric power.

In closing, I would like to thank you for the privilege to present this brief on behalf of our organization, the Thunder Country Conservation Club.

THE CHAIRMAN: Thank you, Mr. Pinkowski. Once again, could I ask you, approximately, the membership of your club?

MR. PINKOWSKI: Twenty-two members. It is a mixed club, husbands, wives and children are included.

THE CHAIRMAN: Are you affiliated with the Conservation Council, the Sierra Club?

MR. PINKOWSKI: No, we are affiliated with the Ontario Federation of Anglers and Hunters.

MR. COSTELLO: That is part of the Conservation Council.

MR. PINKOWSKI: Right.

MR. McCAGUE: Mr. Pinkowski, we certainly are glad to hear your concern in connection with number one agricultural land.

We are told that Class 1 and Class 2 land is disappearing at a rate of 26 acres an hour in Ontario. This is hard to believe. In the County of Peel, one of the best counties in Southern Ontario, insofar as the quality of land is concerned, from 1941 to 1971, 61% of their land has disappeared through agricultural build-up.

The farmer has been complaining and pointing this out, that we do need support from society in total in the province to conserve this land. As Arthur Porter has said, food and energy are almost synonymous. Without food we are, indeed, in desperate positions.

The term may very well be the time when food will be in drastically short supply unless we do preserve this land. We appreciate your concern.

THE CHAIRMAN: Thank you very much, Mr. Pinkowski. I am going to announce a five minute leg-stretcher break at this point. We have to, among other things, put on a new tape, as we are recording today's meeting. If we can reconvene rather sharply in five minutes.

--- SHORT ADJOURNMENT 4:35.

--- UPON RESUMING AT 4:45.

THE CHAIRMAN: Ladies and gentlemen, can we come to order again, please. The next submission is from Mr. Norman Richard of the Lakehead Labour Council.

DR. ROSEHART: He is not here.

THE CHAIRMAN: He is not here. All right. Since we may not be able to complete the remaining submissions this afternoon I wonder whether any of those yet to be called were planning to be here tonight at any rate, so that if the problem of time becomes too pressing they might be in a position to give their submissions at tonight's meeting. Is there anyone left to be called who would be coming tonight anyway?

MR. ROSE: Yes.

THE CHAIRMAN: Are you prepared to do that, Mr. Rose without inconveniencing you too much?

MR. ROSE: Yes, I would prefer to do it this afternoon. If I can't do it I will come tonight.

THE CHAIRMAN: I will put you on the reservation list. We will see whether we can get to you today. Let us proceed as far as we can go. Is Mr. Murray Goodwin here?

DR. ROSEHART: No he is not here.

THE CHAIRMAN: Is Mr. Calder present?

MR. CALDER: Yes, Mr. Chairman. Mr. Chairman, it is very difficult when we have ten minute limits. I prepared a mini brief, and there is a tremendous amount of information in my original brief. You will have to screen it as we go along, if possible.

THE CHAIRMAN: That is very kind of you to present a mini brief to us today. Are you doing this

on your personal behalf?

MR. CALDER: Yes, I am.

THE CHAIRMAN: Thank you very much.

MR. CALDER: Mr. Chairman, I welcome the opportunity of appearing before this Commission on the long-range planning of electric power systems.

As little is said about the west system requirements in any document to date, I feel that the residents and industries need to emphasize the shortage of generation and/or the reserves available in this district.

We are in short supply of power and have to rely on help from the Manitoba Firm Power. Our loads total 740 megawatts from our own generation and an additional 250 megawatts from Manitoba.

Due to the fact that the whole area works seven days a week and all shifts, the load pattern is flat out so that there is very little variation other than seasonal power. There are no reserves except for a 230 KV intertie between systems which are being used.

We have every intention of promoting the development of north-western Ontario through the expansion of resource industries, our municipalities, and tourism and would hope to see load growth as much as 6.5% to 7.0% compared with southern Ontario.

Ontario Hydro's long-range plan has

been geared to associate that itself with growth and has not been successfully challenged through the last several Energy Board Hearings, nor has there been any reasonable alternatives proposed by intervenors at these Hearings.

I would like to go on record to suggest that the Royal Commission on Electric Power Planning consider the following recommendations to the Government of Ontario. These may or may not be in order of preference.

1. Consider expansion and size or number of the units in the proposed thermo generating plant in Atikokan . I believe I have substantiated the figures for expansion in Atikokan in my original draft.

2. Complete new and necessary interconnections between generation locally to improve security. I believe I have supported that with the fact that we have had an average of 56 outages for X number of years, and we have lived with it industrially and locally.

3. Consider extending facilities from Ignace, north to Sanjo Metals at Lake St. Joseph, for further connections to developments of water generation of the Albany River system.

4. Improve the position of Ontario Hydro with reserves so that interruptable power can be offered for local and export sales.

5. Cut out water charges to Ontario Hydro for generation so that we may recognize a cheaper rate.

6. Complete one or the other proposed nuclear plant as soon as possible. If you recall most of the statements made are in connection with the North Channel nuclear plant. We have had some indication of a unit on Lake Superior. I feel that this is a must and we should proceed with it.

7. Proceed immediately with 500 KV interties between the west system, the north-eastern system, and the southern Ontario system, so that we may enjoy a proper and reliable energy supply.

THE CHAIRMAN: Thank you very much, Mr. Calder. We regret that we have not had the opportunity to read your full brief, but we certainly shall do so. Perhaps one or two of the questions I have are answered in there. When you speak of additional expansion of the Thunder Bay station you are referring to expansion above and beyond 400 megawatt size now contemplated, that is to say the additional 250 megawatt units?

MR. CALDER: No, my original submission is Atikokan.

THE CHAIRMAN: I am sorry, of course.

MR. CALDER: There we are proposing the two 400 megawatt plants. I feel that they could be larger or more in multi-units.

DR. ROSEHART: Several people have suggested that Ontario Hydro be used as a vehicle for regional development. Since this plant announcement has been made at Atikokan, have there been any inquiries from industry or more inquiries than there have been in the past?

MR. CALDER: The best I can say is that our councillor, Murray Goodwin, was to be here this afternoon, and he is one of the vigorous persons on the Atikokan Industrial Commission. They are certainly outdoing a lot of field work for this particular aspect. Certainly we are going to make use of it and plan an industrial park associated with this development.

THE CHAIRMAN: Mr. Calder, when you say that we hope that development in north-western Ontario will proceed at a certain rate, are you there speaking on your own behalf only or is this your perception of attitude in and around Atikokan and the north-west generally, because last night we heard one or two comments that suggest that people in Thunder Bay might be rather happy to see the town remain at something like its present size.

MR. CALDER: I pretty well travelled to north-western Ontario, and from some of my submissions there you will find I have been very active and done a lot of work in connection with the Ministry of Natural Resources' report on land use planning, from that it is pretty easy to

deduct the fact that if there is 3910 new employable jobs in between now and -- or in between that submission and 1980, then industry and development in north-western Ontario will grow regardless of how complacent people feel in Thunder Bay at this point.

Likewise supported from the standpoint that I have worked with TIGA on the development of the Lake St. Joe project, and if you will take their submission that is added there for population growth into the 2001, there is 18,000 new jobs predicted in that particular thing. I feel that that is the way that north-western Ontario is going to go.

MR. COSTELLO: There is a reference to maybe 50 megawatts being available from Great Lakes Power. They pull 30% of their demand from Hydro, and right now they are pulling 70%.

MR. CALDER: I think you will notice that is an emergency to that system.

MR. COSTELLO: They have to pull it basically from the Hydro?

MR. CALDER: Right.

MR. COSTELLO: There is some doubt in my mind about future expansion of the wood products industry. You know, they come to the end of the use of the annual cut. These plants now are being built fairly

large. Just how much is left I am really not sure. I guess what I am trying to say is that there is no doubt in my mind that expansion in my own industry is going to continue at the rate it has for the last 30 years.

MR. CALDER: I have basically followed the Reid development in north-western Ontario, and when I convert the number of employables in that particular operation, then convert it to the necessity of power, certainly if they were to start the development we would not have it available to us in the next near future.

MR. COSTELLO: What I am really saying is this can't go on ad infinitum. There is an allowable cut and you can't cut any more than the government predicts you to cut per year.

MR. CALDER: I would like to add to that the fact that Great Lakes Pulp and Paper have plans on working along with the new project in the area of Lake St. Joe. It is in the TIGA study on forest products. North of the lake there are several mining operations. I think I have named them in my brief.

MR. COSTELLO: You have?

MR. CALDER: Yes.

DR. PORTER: Mr. Calder, there is just a very minor point here in Appendix 2 -- not your mini submission, but your micro submission. These predicted

rises in population -- these percentage projections, some of these are wrong, of course. Much too low, I suppose you spotted this?

MR. CALDER: Yes, I would suggest that.

DR. PORTER: Instead of 22.5% it should be about 60 odd from the population of 1971, 6,986,000, etc., to 11,646,000. It is about 60% on that projection, and down here you have got 22.5. I think one or two of the others are a little bit suspect. Minor points. I thought I would draw them to your attention.

MR. CALDER: Very good.

DR. ROSEHART: Last night reference was made to the SLUF report, sometimes referred to as the Natural Resources Report, also the TIGA documents in design for development.

What sort of interaction is there between the natural resources and TIGA reports such as this?

MR. CALDER: Well, I think the Ministry of Natural Resources study was done as of three years ago. It brought everything up to date as things were at that particular time. In fact, some of the forecasts were into '77 of developments that would come on the line and be into -- in use for employment into '77, so the way I look at it, the SLUF report has emphasized only the natural resources development.

The TIGA reports -- and I have only submitted data that I have seen in connection with the Lake St. Joe study.

THE CHAIRMAN: Thank you very much, Mr. Calder. I hope you will be assured that in some of the other points we haven't commented on, for example, strengthening the interconnections between east and west systems, purchase from Manitoba, these are all matters on which we will be getting information from Ontario Hydro when our information hearings commence in the Spring. These are clearly in our terms of reference and there is a lot of material and facts on these questions that we will be wanting to get from Ontario Hydro.

MR. CALDER: Is Reeve Rutherford present from the Improvement District of Beardmore?

MR. RUTHERFORD: Mr. Chairman, members of the Commission, ladies and gentlemen. As of January the 1st, 1976, Beardmore will be a township governed by a reeve and four councillors. This brief has the support of the present Board of Trustees and also the council-elect.

The Township of Beardmore comprises the two townships of Summers and Eva, with the Township of Eva forming part of shoreline of Lake Nipigon.

As Lake Nipigon is "the largest body of unpolluted water in Ontario", and as the Township of Eva beaches are unique -- even for Lake Nipigon -- in their size

and quality, they are an invaluable asset in the recreation potential of Beardmore. Some development has already started in the form of a park called the Poplar Lodge Park owned and operated by the municipality.

(a) With these facts in mind, we feel it to be imperative that we protect this natural resource and Beardmore's interest in it. This is why we are very concerned about any possible environmental changes in Lake Nipigon such as the water level fluctuations, which would be very detrimental to recreational utilities.

(b) We feel that the price of electric power should be equalized throughout the province so that small communities should not be penalized because their "block purchases" are small.

(c) We fully understand and support the demand for electric power of our sister communities like Armstrong. If additional power lines are to be constructed, the route should be on the east side of Lake Nipigon. The main reason for this is that the potential for recreational opportunities on Lake Nipigon lies on the east rather than the west shore.

(d) We appreciate the fact that Hydro is looking for additional sources of electric power. We feel that some of these additional requirements could be reduced with the elimination of waste in the use of electrical power. Obviously the greatest savings could be realized by other

use by the greatest users. Why do factories, large plants, office buildings, etc., require lighting for 24 hours a day? Research carried out recently pointed out the extremely wastable practices of our industry and government.

We find it incredible that such wasteful practices are still part of "the Canadian way of life".

(e) It is with great concern that we are watching diminishing supplies of the traditional sources of energy, mainly the fossil fuels. We are also going to such fantastic lengths and expense to obtain these, when a possible solution lies on our doorstep.

May we suggest to you that the forest, which is a renewable resource, could also be an energy source. The effecient way to utilize the forest products as fuel is to convert them to METHANOL. METHANOL is a clean-burning, inexpensive, easily transported fuel, and it can be used to supplement or even be substituted for gasoline and other fuels. It has been estimated that with the proper management of our commercial forests, sufficient Methanol could be produced to generate all the electrical power that we now use and export. We are suggesting to you that, because of the many attractive features of this power source, you -- or rather the Hydro Electric Power Commission of Ontario -- be interested in

it use as a primary fuel.

It seems only common sense to us that the time for damming rivers, spoiling our environment and wasting our energy should belong to the past, and more imaginative ways pioneered, thus creating a new and different "Canadian way of life".

We have heard that Hydro has already decided and committed itself to building 9 nuclear electricity generating stations in the province. If this is true, may we question the reality and wisdom of this investigative Commission and the public expense involved? Can we be sure that this is not just another example of "window dressing" in pretending to seek public involvement and suggestions, when the objective and long-range decision and commitments have already been made?

In the "terms of reference" our list of file projects for which the Commission has asked to consider and establish priorities. These projects were planned when Hydro was expecting and advertising an increase in annual consumption of electrical power of more than 7%. We disagree with the validity of this projection having seen what happened in Manitoba, Quebec and British Columbia Hydro "project demands". Previous activity by Ontario Hydro would suggest that they are operating with the same "tunnel vision" as their sister corporations. Increased demand is a boost to

the Hydro monopoly.

We are also witnessing the continued concentration of industry and pollution in southern Ontario at the expense of agriculture. May we remind you once again that agricultural land is one resource that is not readily available in the north, and once out of production through industrialization is not reclaimable. This concentration of industry and population has been at the expense of development in northern Ontario and can only have a long-range effect of disastrous proportions, particularly if allowed to continue.

We wish to thank the Commission for hearing our views on electric power planning.

THE CHAIRMAN: Thank you very much, Mr. Rutherford. I find it personally a little encouraging to hear a submission that, in fact, invites Ontario Hydro to place some power lines through your neighbourhood. It isn't something you hear south of Wawa any more. I take it, when you say that the lines should be constructed east of Nipigon you are talking about potential lines from Beardmore along through to, Armstrong?

MR. RUTHERFORD: Well, there is a present line serving Beardmore Geraldton area and you could branch off going north around the east shore -- or even inland from the east shore in which you would be able to serve the Odden area and around the top to Armstrong.

There is a great amount of mining activity going on in the region from Beardmore to Delilah and there is the potential there for development. It looks pretty good in the future.

THE CHAIRMAN: Just one other point I want to make. You talked about the equalizing price of electricity. As you know, of course, in general this is done when a community is provided with large supplies. Savant Lake was, recently, it is my understanding, at least, that customers in Savant Lake will pay approximately, you know, the same price for line supplies there as anyone else in Ontario. Of course, communities supplied by the diesel system, it is another case entirely, and the pricing there, I guess, are designed to recover the cost of diesel oil there, which is probably far more expensive.

Were you suggesting that remote communities with diesel supplies get power at rural rates?

MR. RUTHERFORD: I think we are dealing with the Hydro electric power that is being used presently, where larger municipalities can make block purchases, where the smaller municipalities cannot. And this is the point we are making there.

MADAM PLOURD-GAGNON: You are talking about the ordinary domestic consumption?

MR. RUTHERFORD: Yes.

THE CHAIRMAN: I think I see your point. I was mistaken.

DR. PORTER: Reeve Rutherford, I think there may be some misunderstanding relating to some of the points you have raised on Page 2.

You mentioned, and I quote here "We have heard that Hydro has already decided and committed itself to building 9 nuclear electricity generating stations in the province."

As you know, the terms of reference of this Commission relate to 1983 to '93 and beyond. In the period immediately prior to that the Ontario Energy Board made certain recommendations to the Ontario Government and certain projects, on the basis of these recommendations, were approved. They did include certain nuclear electricity generating stations. I doubt very much whether there are 9. There may be 9 nuclear reactors, because some of these generating stations, of course, -- Pickering, for instance, has 4 nuclear reactors. The Bruce A station will have 4, and the Bruce B will have 4, so there are certain recommendations which have been accepted by the government and Ontario Hydro, as I understand, has been given the go ahead on certain of these projects.

I can't enunciate them and identify them at this time, because, as I say, we have been asked to

take over from the period which the Energy Board considered, and so, 1983-'93 and beyond.

The second point is that you mention a little later on that in the terms of reference are listed five projects for which the Commission is asked to consider and then establish priorities. This is not, in fact, the case.

The Commission has been asked to report on a priority basis on the need for these five facilities. That, of course, is a different matter than the Commission being asked to establish priorities. They have been asked to establish the need on the basis of public input, of course, in the conduct of their inquiries. Of course, part of the information hearings which will be held in the Spring will relate to those self same projects. So, I thought I would clear that up, because there appeared to be a little bit of a misunderstanding vis-a-vis the mandate of the Commission.

MR. RUTHERFORD: Thank you. The main point we are trying to make here is the fact that we are questioning whether this turn to nuclear energy is going to be the best thing for the future of the province. As I mentioned, what will the long-range effect of radiation be. And this is something we are questioning.

DR. PORTER: This is, of course, something the Commission will certainly be addressing itself

to, and, indeed, it is one of the issues that have come up across the province. Obviously, we will be concerned with this and we will be getting together all relevant information. Hopefully much of this will be developed during the information hearings which we expect to have in the Spring.

MADAM PLOURD-GAGNON: You mentioned last night that we might organize a symposium with the top people to discuss this.

DR. PORTER: Yes. That is a possibility too.

MR. RUTHERFORD: Thank you.

THE CHAIRMAN: Thank you very much, Reeve Rutherford, for coming down from Beardmore.

MR. RUTHERFORD: Thank you very much.

THE CHAIRMAN: Is Mr. McKay of the Planning Board present?

DR. ROSEHART: I don't think he is here.

THE CHAIRMAN: Is Mr. Rose here of the Thunder Bay Field Naturalists?

DR. ROSEHART: He has left.

THE CHAIRMAN: He will be coming back tonight.

Well, that is my list, that would mean tonight we will hear from Mr. Rose, Mr. Tom Robinson from

the Nipigon Chamber of Commerce, Mr. W.J. Martin of Thunder Bay and Mr. Charles Ericson of the Voyageur Wilderness Club.

Are there any other submissions to be heard this afternoon? Are there any other names that I have forgotten? (No response)

THE CHAIRMAN: That is fine. Thank you very much for your patient attendance and we will be reconvening at 8 o'clock tonight.

--- WHEREUPON THE HEARING ADJOURNED.

Ontario

THE ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Preliminary Meetings of the Royal Commission on Electric Power Planning

DATE: December 9, 1975. **TIME:** 8.p.m.

LOCATION: Thunder Bay, Ontario.

VOLUME NO: 13A

OFFICIAL REPORTERS

Angus, Stonehouse & Co. Ltd.
14 Carlton Street 7th Floor
Toronto, Ontario M5B 1K5
595-1065

PRELIMINARY MEETING

ROYAL COMMISSION ON ELECTRIC POWER PLANNING

held on December 9, 1975 at 8 p.m.

DaVinchey Centre

340 Waterloo Street

Thunder Bay, Ontario

APPEARANCES:

Chairman	Arthur Porter
Members of the Commission	Robert E. Costello Solange Plourd-Gagnon George McCague Dr. William W. Stevenson
Scientific Counsellor	R. Rosehart
NOT PRESENT:	
Legal Counsel	Robin Scott

Volume 13A

--- UPON COMMENCING AT 8:00 P.M., DECEMBER 9, 1975.

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DR. PORTER: Ladies and gentlemen, can we come to order. This is the third part of our preliminary public meeting in Thunder Bay, and we welcome you very much to this meeting.

Perhaps I just might say before I introduce Bob Costello, we would be most grateful if you would fill in the form in your information kit, because by so doing, it would ensure you will get all information which the Commission is going to generate in the future relating to meetings, relating to availability of reports, and such things as this. So, please fill in the form if you are interested in receiving this information. Perhaps you could leave it on one of the tables.

I am not going to introduce my colleagues as I did this afernoon and yesterday evening, but just to say that Bob Costello is going to chair this evening's session.

We have tried to share the load among ourselves. It is a very important load, I might add, so without more ado, I will turn over the chair to Bob Costello.

MR. COSTELLO: Thank you, Dr. Porter. We have five or six submissions left over

from this afternoon. Our thoughts were that we would proceed with these and then have some slides, following that, I suppose, we will have some coffee and an open discussion.

This last meeting is a very -- they are all informal -- but this is the most informal one of the lot. We would like to get lots of participation from the audience as soon as the submissions are done.

To those of you who were not here today or last night, these are preliminary meetings. We have been -- we will have been from Kenora right through to Ottawa, Cornwall, eight different localities. I guess it is sixteen in eight weeks. This is our seventh week on the road and we are getting a little tired, I think, although we have enjoyed it. Each meeting has been somewhat different depending on the personnel, the interest of the community, and certainly we are getting more feedback than I personally thought we were going to get.

As these preliminary meetings are finished, they are preliminary meetings to meet with the public and find out what their concerns are having to do with electric power generation, quality of life and so on down the road into the future. Quality of

life is one thing that hasn't been mentioned very much, maybe we will get into it later.

The Commission will issue an interim report in February, and providing you fill in the forms in the kits, you will receive a copy of it.

There will be information meetings later on when we will obtain from Hydro the key information we really need to proceed, they will probably be sometime in March. In the Fall we will enter into formal Hearings, after which -- between now and the Fall there will be a fair amount of research done on the issues which we have turned up, and issues which we already have in mind.

We have a research facility of our own, it is not very big, but fairly accurate, and there are other research consultants available to us. So while we are all ordinary people here, I am a Chemical Engineer playing around in electrical power, none of us are too expert in this field, but we will have the expert assistance we will require in due course.

We will go ahead now with our first submission. We asked Mr. Rose if he could come back tonight rather than this afternoon. Mr. Rose, are you present?

MR. ROSE: Yes.

THE CHAIRMAN: Mr. Rose is representing the Thunder Bay Field Naturalists and you have the floor, Mr. Rose.

MR. ROSE: Thank you, Mr. Chairman. I am not exactly representing the Thunder Bay Field Naturalists in a formal way. The organization wishes me to tell the Commission that we are vitally interested in the scope of your Commission and that we will be submitting a formal Brief, probably very comprehensive, at a later date.

Since this is a preliminary hearing, we don't have one prepared at this time. I must apologize for not having a written Brief, but the scope was really so broad that I didn't think I could actually focus in on some main issues until last night. Since last night I have a few items I thought I would mention. I don't believe anyone brought these up last night, and I'm not sure whether they were brought up today or not, but hopefully this will be a few new concepts.

This evening I wish to express -- well, I already said that -- some of the things that were not mentioned before. I do think that one consideration that must be studied is that one that was articulated so well by David Morgan last

night is that it is doubtful whether we can go on in the same wasteful way in the future as we have in the past, which is a few minor changes in our way of life.

I too feel that there is bound to be an unprecedented revolution in our way of life if for no other reason than the exponentional growth produces ridiculous predictions, if you take it to the long term. Some sides of these coming revolutions are probably already here. We have problems in labour relations, labour management, we have some indication with the land movement, increasing citizen involvement in Hearings such as these, also in City Council meetings, in various types of Public Hearings.

There is an increasing lack of faith in elected representatives and a lack of faith in big businesses and corporations. This seems to be some indication of some problems in our society that perhaps will get worse in the future.

The Commission should, perhaps, consider setting an energy policy for Ontario, if not Canada, and that goal may well be zero growth per capita in total energy, not just electrical energy, but I think zero growth in total per capita energy. There is no point in cutting back growth for electric energy if we are going to increase some other energy use. I am not sure of the date, possibly 1980, this is sort of up in the air, but at some future date we

should set that as a goal. Personally, I think the goal should go even further than that, that it should be negative growth in per capita energy consumption until we reach at least some level that can be sustained indefinitely with present known resources. So we may find that we can't continue even if we stop growth at the present time, we may have to cut back to some previous level.

Now, my next four areas of concern, then, should be considered primarily as short-term solutions. Until we reach some sustainable level, vis a vis the rest of the world as well as our own resources. The first of these is reduction in peak load demand.

Last Spring the Ontario Cabinet had a meeting in Thunder Bay, and I was fortunate enough to be in the small group that had a very informal conversaton with Mr. Timbrell, the Minister of Energy, and he indicated the Government was looking at various pressing methods of attempting to reduce peak-load demand.

He mentioned, for example, that Vermont had some kind of a special meter that just indicates the peak load, and I understand that Denmark has some system pricing based on peak load. We could have, for example, voluntary methods. Right now, for example, Ontario Hydro has an ad in the paper where

they are attempting to have people voluntarily cut back consumption between the hours of five and eleven o'clock.

And we must have some method of cutting back the peak load demand. And the method that help achieve this could be some means of storing the energy that is produced in peak periods. In one example, a new type of fly-wheel -- there was an article in Scientific America, December 1973, and Mr. Timbrell is aware of this, and apparently his research people have looked into this, and there are some problems, but it is, at least, to be considered.

The second concern that I think the Commission should have is the comparison of the efficiency of electrical energy versus other forms of energy. For example, I think space heating is a glaring example of where electrical hearing probably is not the most efficient.

Transportation is another area that certainly requires a great deal of examination. If we are really going to go for electrical cars and electrical trains, we may have some problems.

The third area would be alternate sources. Some of these, I am sure you are aware of, but there may be a couple that you have not hit upon. Methane or other methods, there is one organization you

are probably aware of, the Solar Energy Institute of Canada Incorporated, that has got a group of experts together that have some very interesting ideas in this respect.

It occurred to me just today when I was jogging around the track that maybe a human power could be a future method of energy. There is an increasing movement in people towards jogging. It seems that instead of just jogging around a track, that we could have a treadmill, and we might be able to achieve two things at the same time, or we might be able to get peddling machines. I don't know what you call these things, but they look like bicycles, and you could hook up a generator to that. Obviously that is not going to make a great dent, but I think the thought is possibly important, the fact that people are thinking about energy conservation, the fact that they think that energy just doesn't come when you turn on a light switch, something has to happen to make it occur. That alone could increase the awareness of the whole public.

Some other alternate sources that may be particularly applicable to areas in Northwestern Ontario could be some small type of power plant for farms, villages, and isolated areas. For example, some small water turbines on streams so a farm could

get a very small efficient water turbine, maybe on a beaver dam, I don't know, but there seems to be some validity in some of these things. Also combinations of methods; perhaps for heating houses, we could use a combination of electrical heating for some times of the year and solar other times of the year, and possibly oil or wood furnaces.

Fuel cells, I am sure, is another one people have been telling you about.

The fourth point, is the use of waste heat from thermal generating stations. I think Lakehead University has probably presented you with some fairly comprehensive information on that, but I think a great deal could be done with that in the form of greenhouses, space heating, melting snow and ice off streets and the roads, there is no end to ideas in which you could use some of that waste heat.

Finally, since one of the terms of reference of your Commission is "to discuss the manner in which this inquiry ought to be carried out" I would like to recommend a particular method that you consider; this would be a method in which you set up some programme similar to the Man and Resources Programme that was run by the Canadian Council of Resource and Environment Ministers a couple of years ago. The Ontario Chairman for that Programme was Mr. Ross Hamel, who, I believe, is still working for

the Ministry of Natural Resources in Toronto. He could give you the organizational details that would be required. Briefly, it was a programme in which small local groups studied and dealt with one to twelve issues and then submitted their findings to the provincial committee. Finally a representative from each local group attended a four-day conference in Toronto to finalize the recommendations. This, I feel, could be a valid way, if you will have sufficient time and if you are interested in doing that sort of thing.

That is all I have to say, Mr. Chairman. Thank you.

THE CHAIRMAN: Thank you very much, Mr. Rose. I would think 1980 is a little close for zero growth, but it is probably there at some point in time. Something I read the other day -- well, we read the other day -- indicated that in Sweden they are looking at a reduction by 1985. I am not quite sure of the date, but zero growth is their target and their objective.

DR. PORTER: You have raised so many issues and concerns that it's rather difficult to focus in on any one. Certainly this has been a most useful contribution. Perhaps you will be interested to know that insofar as the Man and Resources Programme is concerned, we are already collecting no only each of the section reports, and I think there were about

ten or eleven of them, but also many of the working papers, because, as you rightly say, not only the format is of interest to the Commission, but also the subject matter was a very considerable interest, and indeed, quite an overlap between our two activities.

We will certainly take up the suggestion that we get together with the Ontario Chairman. I personally, as a matter of fact, was on one of the working groups, so I know a little bit about the Programme.

Your mention of the comparison of efficiencies of different energy systems too is, I think, a very appropriate one. The Commission has already commissioned a study of the whole area of efficiency, and really what it means, and how it should be measured, because we believe that this is the first real step on the way to energy conservation, to really understand efficiency in as broad a sense as possible, so this too is a suggestion which the Commission is already pursuing.

A reduction in people demand, I am sure my colleague, Bill Stevenson is aware of that, and will probably have some comments, but I think at this time that is all I would like to say. I certainly don't need any clarification. I think you have presented it very clearly. Thank you.

DR. STEVENSON: We covered Man and Resources pretty well, I was on the energy provincial regional working group on Man and Resources, and we have been in touch with Mr. Hamel. I am interested in your observation about fly-wheels. I do believe that is the first mention of fly-wheels. Energy storage is a problem, and of course with electrical energy this is one possibility.

Am I correct, Mr. Rose, that the stated objective of Mr. Timbrell, in terms of his energy management programme, is a reduction in the rate of growth of energy per capita in this province by one-third by 1980? Does that ring a bell with you?

MR. ROSE: I didn't talk to him about that.

DR. STEVENSON: It is somewhat more modest than your objective, but at least in the direction you advocate.

People-pricing is a hobby of mine. I have been involved in it for five years, and the central Vermont experience is one that we are watching very carefully, because it is such a dramatic test of the effect of price changes on people's behaviour. I believe that what they have done is, basically, increase the daytime price of power in this tiny little utility around Burlington, Vermont, six

times the nightime rate to see what happens. Ontario Hydro's day-night cost differentials are not really that great. It certainly costs more to generate power in the afternoon than it does in the middle of the night, maybe a few mills more, but I hope we will see some experimentation in this province in time. It may be one of the things we should be recommending, but it is certainly a valid point. I am glad you have mentioned it. Keep in touch with us, maybe we will have a report on Vermont to include in our information package sometime in the future.

MADAM PLOURD-GAGNON: You mentioned a combination of energy. What kind of combination?

MR. ROSE: I think that is open to some future research, but for example, I looked at a house just recently, a fairly large house, and it had two furnaces, one to heat the upstairs and one to heat the downstairs. The house was built in such a way -- I don't know whether it was on purpose or not -- but at any rate, it faced south and had a lot of windows on the south side. The owner indicated that he hardly ever had to use the upstairs furnace, even in the wintertime because there was so much heat coming in from the sun and heated the whole upper part of the house.

I thought at first that two furnaces was a bit too much for a house, but he claimed

that it was probably more efficient, and so that is not what we really think of as solar heating, but it certainly did have an input in Thunder Bay, which is pretty far north. For example, on farms, if you are going to have wind power -- or any place you are going to have wind power -- you always have the problem of storing it, and you have the problem of, what do you get, two weeks or so with no wind. If you have some alternate supply, say, you had a lot of rain when you didn't have any wind, you could probably have some kind of little water turbine, or you could use wood. Wood is a thing that we have lots of up here. I think in the future there may be a lot more use made of burning wood as fuel in our houses than in the past -- in the recent past.

DR. PORTER: May I just mention in that connection, Mr. Rose, that I personally have a Franklin Stove and a pot-bellied stove and I burn dead elms and it is a very effective way of cutting down my fuel bills.

THE CHAIRMAN: Thank you very much, Mr. Rose.

We will now hear from Mr. Tom Robinson of the Nipigon Chamber of Commerce.

MR. ROBINSON: Thank you, Mr. Chairman. I am here as the President of the Nipigon

Chamber of Commerce, but I am presenting this submission on behalf of the Nipigon Chamber as well as the Council for the Township of Nipigon. They have endorsed our submission.

We presented this Brief about a week ago, and I don't know whether you have had an opportunity of reading through it, but if I may, I would like to read through it.

Probably the greatest problem which the Commission will encounter will be the generation of interest in communities, especially small communities, throughout the province. The population has become, by and large, cynical about the activities of government commissions, departments, ministries and corporate bodies. Is government productive and efficient? Is it truly responsive to the residents' wishes? Combined with this cynicism is a growing detachment of the people from their government, even on a local level. In order for the Royal Commission on Electric Power Planning to produce a report which will have any significance, it will be necessary to penetrate these formidible barriers.

We are ill-equipped to advise the Commission of the most effective methods of obtaining the views of a cross-section of Ontario residents. A social psychologist would be much more helpful. Even though this is to be a purely preliminary survey of

opinions and attitudes toward the long-range planning of Ontario Hydro's system, we wish to submit to you the following:

HYDRO IN ONTARIO - SERVANT TO INDUSTRY OR CREATOR OF INDUSTRY?

At the present time, electrical power is available in unlimited quantities to all residential, commercial and industrial consumers in Ontario. Except on rare occasions, Ontario Hydro has always been able to meet the demands placed upon it. To industrial consumers, one of the foremost factors influencing the location of new manufacturing or processing facilities is the availability and cost of power. We would suggest that the Royal Commission on Electric Power Planning consider Ontario Hydro's role in planning the type and location of future development in this province.

Southern Ontario's "Golden Horseshoe" has an adequate supply of power at a cost which is competitive with any other area of this country. This, in our opinion, partially accounts for this area's concentrated industrialization. We would like the Commission to consider the means by which the availability of power could be used in the social planning process -- for instance -- if power consumption limitations were imposed on all new industries locating in the Golden

Horseshoe, where would major industrial power consumers locate? To industry, power sustains life. We would like the Commission to consider the effects of limiting the power supply to industry as a planning instrument.

This province contains thirty-four percent of the population of our country and most residents are located in a band fifty miles wide stretching from Oshawa to London. Within this same general area, Hydro has constructed major generation facilities at Pickering, the Richard L. Hearn in Toronto-East, Lakeview in Toronto-West, Nanticoke on Lake Erie and the Niagara Falls complex. We ask the Commission to consider whether or not it would be preferable for Ontario to have a more uniform population distribution, and also, if it would be better for many of our smaller one-industry communities to have greater and diversified employment opportunities? We ask the Commission to consider the problems of Northwestern Ontario. Predominently dependent on the pulp and paper industry, the economies of all communities across the North are being seriously affected by the present labour disputes. We ask you to consider the need for other types of industry and the concept that the Provincial Government, through Ontario Hydro, can provide the industrial diversity we require.

We ask the Commission to consider the needs and desires of small communities, such as

Nipigon, that desire moderate growth and what or who will create the conditions which will lead to such development. We would like the Commission to consider the responsibility of the Provincial Government for encouraging such development.

In conclusion then, we would ask the Royal Commission on Electric Power Planning to carefully consider the views of the people of this province on the basic issues of whether or not electric power system planning should be determined by industrial development or should power system planning be used to manipulate development of our province. The availability of electric power is THE determinant to future population distribution in Ontario.

THE CHAIRMAN: Thank you very much, Mr. Robinson. What is there at Nipigon now in terms of industry?

MR. ROBINSON: Well, at Red Rock ---

THE CHAIRMAN: I used to work at Red Rock.

MR. ROBINSON: Is that right?

THE CHAIRMAN: Yes.

MR. ROBINSON: Okay. The Domtar mill in Redrock which employs almost a thousand people, that is including their wood lot -- Nipigon, there is one major industry, and that is the plywood mill ---

THE CHAIRMAN: That is the old granite mill? I suppose that predates you.

MR. ROBINSON: What we have there now is only a plywood mill. Of course, Hydro has approximately thirty-five to fourty employees there now. They have three hydro-electrical generating stations. The Ministry of Natural Resources just established a regional office there and we have the O.P.P. teaching staff.

We are suggesting that small communities such as Nipigon and Terrace Bay, and so on, one-industry communities -- this strike now has certainly hit home. The fact that we have too many eggs in one basket, with a thousand people unemployed, over in Redrock, of course, certainly affects Nipigon dramatically. You have probably heard this before.

THE CHAIRMAN: We realize that a one-industry town is a problem.

MR. ROBINSON: That's right.

THE CHAIRMAN: I have a note here ---

MR. ROBINSON: I was reading Hydro's submission to you. They mentioned on Page 31 of their submission ---

THE CHAIRMAN: Their preliminary submission to this Commission?

MR. ROBINSON: That's correct. They mentioned the idea of consumption limitations.

THE CHAIRMAN: It is rather interesting. This came up at Sault Ste. Marie also, having to do with kilowatt hours should be limited to prevent industry from taking on any other kind of development.

Any questions from the group here?

MR. McCAGUE: Mr. Robinson, you have asked a question in your closing paragraph, "should Hydro be used to manipulate development in our Province?". What is your view? Do you think Hydro should be used as a tool to develop industry in areas of the Province?

MR. ROBINSON: Yes, it is our submission that it should be; that is correct. But by imposing consumption limitations on industry, you would be manipulating it. You would be saying, we are going to restrict you to certain consumptions; say, in the Golden Horseshoe, using that as an example, if your consumption needs are greater, we will be encouraging you to move to North Bay, Peterborough, and so on. At the present time industry locates and Hydro follows. If the load is there, Hydro produces the power. Power is a need for every one of us. As I mentioned, it sustains life and industry. If you limit them to certain areas they are going to have to move.

MR. McCAGUE: Do you plan to subit a formal Brief at the Hearings when they get underway next year?

MR. ROBINSON: Probably.

DR. STEVENSON: A lot of people have mentioned price differentials as a way in which Hydro could subsidize power in the North, or whatever. But yours, I think, is the first mention of the sheer rationing of power.

MR. ROBINSON: We discussed and discharged the idea. We felt it wouldn't be fair to impose higher costs on one area of the Province. The North is always saying, we don't want this. There is a disparity now. It costs more to live in the North than the South. We reject the idea of differential cost. All we are saying is limit the consumption.

DR. STEVENSON: That's quite imaginative and perhaps gets around some of the problems of subsidies, as you can imagine can be quite serious.

DR. ROSEHART: I believe two years ago your organization was very interested in having Ontario Hydro locate a generating station in Nipigon.

MR. ROBINSON: That's right.

DR. ROSEHART: One further comment, how do you feel you were received by Ontario Hydro in that particular exercise?

MR. ROBINSON: Quite well. As I mentioned at the beginning, this cynicism and scepticism

amongst the people, and at that time I was on the planning board, and we were not even considered at that time. Hydro didn't consider locating as far east as Nipigon, but we work our fingers to the bone getting such information and we made our submission to Hydro. We were well received, they came down and discussed this with us. They had a public meeting in Nipigon, and many of the sceptics started to become believers. They thought, perhaps, there was a possibility of a plant being located in our area.

We are still working toward the possibility of having a second stage -- the nuclear stage -- located at Redrock. We haven't given up on that at all even though Hydro is somewhat committed to locate in the fossil fuel stage, which is the first stage, in Atikokan, but we are still hoping we will see the second stage in our area.

MADAM PLOURD-GAGNON: As President of the Chamber of Commerce, does it mean you know your population? Do you think the population of Thunder Bay and Nipigon, I mean mostly the ordinary consumers, feel really involved in this Commission and our objectives?

MR. ROBINSON: No.

MADAM PLOURD-GAGNON: Why?

MR. ROBINSON: I don't know. I mentioned this growing detatchment of people from the government. Mr. Rose mentioned the same thing, the lack of faith in our elected representatives.

I was on the Nipigon Council as well, and we encouraged people to attend our meetings. We have a town of 2500 people, you think that a person paying $400 or $500 a year on property tax would show sufficient interest to attend one meeting a year to see how his elected representatives are spending his money. There is no interest, there is just a general lack of interest, and if somebody is going to build an abattoir in your backyard, something like that, then there is an interest, but people just seem to be detached from government, commissions, ministries, even little councils. I don't know why. I don't know what the answer is.

MADAM PLOURD-GAGNON: Do you think it is a lack of information from the government or from the Commission?

THE CHAIRMAN: It is amazing how they all turn up at the hockey games.

MR. ROBINSON: Even tonight we have twice as many chairs as people; this is an extremely important thing, planning electric power systems in this province.

THE CHAIRMAN: We think so. Thank you very much.

We now go to Mr. Martin.

MR. MARTIN: I would like to thank you for giving us this opportunity to say something on Ontario Hydro. I don't represent anybody, I am just here to give some of my own feelings on this subject. I think, perhaps, what I will do is just read what I have already handed in.

Over the past few years I have formed rather strong feelings on some aspects of Hydro usage and Ontario Hydro itself.

1) During numerous trips throughout Northwestern Ontario, I have developed a passionate dislike of the numerous Hydro transmission lines built through the region. I realize they are a necessary evil, but it never ceases to amaze me that in places three separate lines run parallel to eachother, separated by only several hundred yards, and crisscross the highway as though the builders were lost. Couldn't existing transmission towers be replaced with new, larger, towers when it became necessary to run new lines, instead of cutting a new swath through the countryside? This area of the province prides itself on its natural beauty, and uses this beauty to draw tourists. Many people live here solely because they love the wilderness areas. Why must the beauty of the area be scarred by duplicated and seemingly haphazard transmission lines?

2) I have often heard, rightly

or not I do not know, that Ontario Hydro exports a great deal of the power it generates. I do not know the figures involved, but I would like to be on record as opposing any growth in Hydro generating capacity that would be required to increase, or even to maintain, the present level of power exported out of the Province of Ontario. I consider Ontario Hydro to be an arm of the Government of Ontario, and therefore of the people of Ontario. I do not believe that as such, Ontario Hydro should undertake committments to outside interests that will require the people of Ontario to pay either through the destruction of our natural environment, or through monetary subsidy of the new plants such committments would require.

3) My last point is in regard to that often-heard statement that we should "live better electrically". I'm sure everyone appreciates the convenience brought to us through electric living. I can't help but wonder, though, at what cost do we live better? Beyond the obvious environmental aspects, I feel that electrical living is monetarily more costly than living better with gas heat, gas hot water, or a gas operated clothes drier. This may not be true in the future, but personal experience makes me believe it is true now. This causes me to wonder why Ontario Hydro should promote 'electric living'. Could it be that by spurring the demand, more and bigger facilities will be demanded, with resultant growth in the bureaucracy that growth supports?

Growth may be fine in private, competitive, industries. Growth in the business community signifies a successful operation. I do not feel, however, that such thinking should apply in the realm of public utilities. Growth in the demand for electric power means the need for bigger, more costly, and more environmentally dangerous plants than are warranted by basic needs. I hope that if Ontario Hydro, or the municipal utilities it supplies, must advertise, that they advertise solely to discourage, or at least not encourage, greater hydro consumption.

THE CHAIRMAN: Thank you very much, Mr. Martin. With regard to the export of power, Hydro exports off-peak power. They don't export ---

MR. MARTIN: This, I thought, may be the case. I do not ---

THE CHAIRMAN: There is some pollution associated with the generation of any power from coal-fired stations, whether it is generated at peak times or any other times. Hydro have not built capital facilities to generate power for export.

MR. MARTIN: That seems to be a possibility.

THE CHAIRMAN: It actually saves the consumer money.

MR. MARTIN: I can appreciate this aspect of it after hearing so much about the James Bay Project and so forth where the sole driving force seems to be the idea of selling power. I simply

wouldn't like to see it happen here.

THE CHAIRMAN: This come under our terms of reference. Certainly gas-operated plants are more efficient. If you are burning gas to create electricity, it is not quite as efficient as using gas directly. How long that is going to continue is a sixty-four dollar question.

MR. MARTIN: This is very true, but I know my personal experience seems to be that -- operated appliances, for instance, appear to be less costly to operate. I could be wrong. I am not in a position to have figures that would substantiate that.

THE CHAIRMAN: Maybe Bill Stevenson would like to say something on that. The price of gas is going up, as you know.

DR. STEVENSON: I think you are right to observe at the moment it is cheaper to heat your house with gas or oil. Whether this will last is very much up to people like Mr. Lougheed and Mr. Trudeau.

I wonder whether you are of the view, Mr. Martin, that Ontario Hydro are still urging people to live electrically?

MR. MARTIN: Not as much as they used to, but I do see it advertised from time to time.

DR. STEVENSON: I can't speak for Thunder Bay Hydro and how they approach advertising,

but certainly the official position of Ontario Hydro is that they are no longer promoting consumption of electricity, but conservation.

I just have some figures here. Six billion kilowatt hours were exported in 1974, the last full year on record. This was all secondary energy, or surplus, and it generated a profit of $55 million. This was used to reduce our domestic power bills, which, if one was to say that power shouldn't be exported under any circumstances, then one is saying he wants to pay more for power, but you are not saying that.

MR. MARTIN: No.

DR. STEVENSON: You are saying don't build new plants for export, that is another issue entirely, and a perfectly valid one.

MR. McCAGUE: Mr. Martin, you state you do not feel, however, that such thinking should apply in the realm of public utilities. Certainly, as Bill Stevenson mentioned, I think Hydro's position on this has changed completely, and in very recent years. It makes one wonder a bit about the forecasting that is done in many areas. I think two years ago the government -- both governments, federal and provincial -- were saying to the beef man that the light is green for beef production, get into it and we will lend you money to get into it. Within six months we were in deep trouble with surplus beef, and the beef study was about four years

from the time you buy a heifer and that heifer raises a calf, is a four-year period in total, so surely a little better forecasting would have got us out of the beef problem.

One can certainly ask the same question on energy. This seems to have come upon us overnight. This is a worldwide situation. I think it is an interesting comment when Hydro, a few years ago, was saying "live better electrically". They tended to be promoting this. It was done in good faith, but how wrong both programmes were. I think it is interesting that you raise this. Should a public utility take any position and you say not.

MR. MARTIN: No, I don't really believe they should. I think they can do well to supply what is requested, but they shouldn't go out actively soliciting further consumption so that they will have to create new plants to supply it. I think what we will eventually run into is the situation where there will be plants all over the place, and if basic requirements were taken into account, whether they would meet the need.

MR. McCAGUE: We certainly learned a hard lesson in many respects in the last two or three years in many areas, and your comment in this regard I find quite interesting. Thank you.

THE CHAIRMAN: Thank you very much.

Is there a Norman Richard from the Lakehead Labour Council? A Mr. Gordon Martin? (no response) Well, are there any other Briefs to be presented? Is there anybody I have missed here?

MR. ERICKSEN: Yes.

THE CHAIRMAN: My apologies.

MR. ERICKSEN: Mr. Chairman, Mr. Commissioners, Ontario Hydro assets are expected to increase from 5.5 billion dollars to 30 billion dollars in the next eight years if present plans are approved. This may sound like tremendous progress but somehow tremendous progress always frightens me. I do not blindly oppose progress but I do oppose blind progress and right now I think it behooves everyone of us to take a long look at the over-all long-term results, including all side-effects of an expansion of this magnitude.

I am especially concerned with the environmental impact of additional generating stations that will be built. Foresight and long-range planning may reduce some of the disasterous side-effects that we are all too familiar with.

Selection of plant sides are important. They should not be near parks or areas of aesthetic value. Avoid areas of fragile terrain. Lichen

and white pines are greatly effected by SO2. Generating plants must be clean. Install scrubbers. Use every device available to eliminate pollution, regardless of cost. Increase hydro rates to consumer if necessary, but operate clean plants.

Use low sulpher coal. Studies should be made to determine the extent to which sulpher can be removed from coal. Research should be conducted to see if the sulpher removed from coal could be used in some chemical process and thus reduce the cost of removal. Tall stacks only serve to distribute plant emissions over a greater radius.

Purchase electric power which is at the present time or will in the future be exported to the United States. Manitoba, for instance, was planning on building lines to the United States.

Exporting of Ontario electric power should not be considered. We are exhausting our natural resources all too fast. Future generations should be considered.

Instead of advertising and encouraging subscribers to use more power, encourage them to reduce their consumption and conserve power wherever possible. At present, the rate per kilowatt decreases as consumption increases. This should be reversed. As customer uses more energy, his cost per kilowatt should increase.

Government funds should be used for research and development of solar energy and other non-polluting energy sources.

Transmission lines should be located in a corridor with other utilities, highway, railroad, telephone, natural gas line, et cetera. This would make them all less unsightly.

Lines should not pass through parks or recreational areas. Productive farmlands should, wherever possible, be avoided.

A single transmission line removes about forty acres per mile from other productive use. Areas producing forest products or potential recreational land should also be avoided.

All timber cut in clearing of corridor should be salvaged. Blasting in lakes for cribbing for erection of towers should not be allowed as it is fatal to fish populations.

Herbicides should be carefully selected and used sparingly to avoid adverse effects.

Consider aesthetics, especially near lakes, scenic areas and existing highways.

Thermal and sound pollution, also coal dust disposal could present future problems and should be carefully considered.

The value of everything is determined by supply and demand. Canadians will soon be facing the day

when the demand for pure air and clean water will far exceed our supply and wilderness will be at a premium, because wilderness is a resource that can never be replaced. When our presently existing wilderness is gone, it is gone forever. Yet we are thoughtlessly destroying it as if it were desireable to remove wilderness from the face of the earth. The wilderness of Quetico Park is unique, and because it is unique, the Ontario Government recently classified Quetico as a Primitive Wilderness Park. Now, almost before this primitive classification is in effect, Ontario Hydro is considering building a fossil fuel plant within ten miles of the park perimeter. I find it hard to believe that Ontario Hydro would even consider locating a plant almost on the very perimeter of any primitive wilderness park, and I find it even harder to believe that they would consider operating such a plant without scrubbers.

THE CHAIRMAN: Thank you very much, Mr. Ericksen. You have covered quite a few points.

Are lichen and light pine the only species that are effected by SO2?

MR. ERICKSEN: They are one of the first indicators.

THE CHAIRMAN: Is lichen what I would call light birch?

MR. ERICKSEN: Oh, no.

THE CHAIRMAN: I am sorry. I am way

off the track. Actually white birch is one of the first trees to be hit by SO2. If you have been down near the Sudbury area, you will see that.

MR. ERICKSEN: Yes, I have.

THE CHAIRMAN: Removing sulphur from coal. Have you any comments on that, Dr. Rosehart?

DR. ROSEHART: I was reading something the other day, actually, that a process being developed down in the U.S. for de-sulphurizing coal in power stations. And there has been a tremendous amount of research in the last few years for scrubbing sulphur dioxide out of power plant emissions, it is a very difficult problem. You end up with a fair amount of solid waste and that you have to dispose of, but it can be done. I think there are demonstration plants being built that remove sulpher. I think Dr. Stevenson mentioned earlier today, or yesterday, that as a result of budget cuts, I believe Ontario Hydro has cancelled a demonstration sulphur removal project at one of the coal-fired generating stations in Ontario.

Just a further comment. You talked a little bit about research and development in your submission, and you talked about government funds. Do you have any preferences as to whether they are federal or provincial?

MR. ERICKSEN: No, none at all. I feel that research has to be done. I think, perhaps,

it should be fairly subsidized. I would like to add one thing, and that is the Peterson Separater, I am told, is about ninety-eight percent efficient with SO2 removal.

DR. ROSEHART: I don't think there is any argument about the efficiency. As I understand it, they are being put in in some plants. It seems to me for some reason, and I don't know what the reason really is. There just hasn't been sort of a push for a demonstration plant in Ontario yet.

MR. ERICKSEN: I think there should be a push before we even discuss putting plants, we should talk about making arrangements ---

DR. ROSEHART: I think as a result of the submission like the one you have given tonight, it may be an incentive for the government to encourage such activities in the future.

MADAM PLOURD-GAGNON: The Voyageur Club, is it local?

MR. ERICKSEN: I am representing myself. There isn't such a club. I know of a Voyageur Club.

DR. STEVENSON: We are not quite through, Mr. Ericksen. I am looking on my Ontario Highway road map, and I am trying to establish just what is the northern boundary of Quetico Provincial Park. The plant you refer to as being within ten miles of the boundary would that be the Marmion Lake site?

MR. ERICKSEN: The Marmion Lake site would be approximately ten miles from the park boundaries. If you look south, you will find Rome Lake or Batchewan Lake ---

THE CHAIRMAN: I see it now.

MR. ERICKSEN: Wait now, we are getting an indication of the fly -- from the Kalem Mine. The lake I live on -- you can see it right across the lake.

DR. STEVENSON: What lake is that?

MR. ERICKSEN: Lynne Lake. We have quite a deposit of red dust on the lake from the Kalem Centre. I am sure we will have much more when Hydro comes in.

DR. STEVENSON: The Marmion Lake Site was chosen after, perhaps extensive Public Hearing process that Hydro was engaged in. How can you account for ---

MR. ERICKSEN: When you ask hungry people if they want one industry, why, naturally, that is their response. We have a serious employment problem in Atikokan. It is a one-industry town and naturally if you go to a town and ask people if they want industry, and you lead them to believe that the stunt will bring in this, they are going to go one hundred percent for it. I think there were only two of us that went on record as being opposed to it.

MR. McCAGUE: Mr. Ericksen, you suggest the transmission lines should be located in a corridor with other utilities, railroads, highways, telephone, et cetera. Do you know what the system is being practiced?

MR. ERICKSEN: No, I don't. I know in some areas in Europe, they are using in-ground facilities and corridors. I know very little about it. I know that it is possible.

MR. McCAGUE: It seems to make a good deal of sense. Bob Rosehart, have you any comments on this suggestion?

DR. ROSEHART: The utility corridor concept?

MR. McCAGUE: Yes.

DR. ROSEHART: I don't like to pass the buck, but I think Dr. Stevenson may be more qualified to answer this.

DR. STEVENSON: Well only, Bob, insofar as, as you know, a member of the Energy Board, we do sit on pipeline approval hearings. We do have to approve the natural gas pipeline, and we are always suggesting to the pipeline companies that they put their pipeline on Hydro right-of-ways, et cetera.

I am interested in the fact that we now have two back-to-back submissions making the point that Hydro's transmission corridors seem to be somewhat

haphazard, crisscrossing the North without even collecting on their own rights-of-way, not to say collecting other utilities together. It is a question that we will be asking Hydro when it comes time to put them on the stand.

DR. ROSEHART: I might comment on the possible use of transmission corridors for gas pipelines, or any kinds of pipelines, there are some problems of corrosion because of the associated induced voltages in the metal lines. I am not really expert in the area, but it is an interesting -- it is a good concept.

MR. McCAGUE: Mr. Ericksen, you suggested it takes about forty acres of land out of production per mile for a transmission line. Are you referring to forest production, tree production?

MR. ERICKSEN: No, it takes forty acres of line out of productive use. For a line similar to what you are going to build between Atikokan and Thunder Bay, it takes this.

MR. McCAGUE: Well, now, the figures put forward to us, indicates agricultural land, where the farmer loses some farm around each tower insofar as production is concerned, but the actual loss of production per one hundred miles, I believe, was five acres. I can't confirm that, but it is much lower than the figure you suggested.

MR. ERICKSEN: The calculation might be wrong. I got it from Hydro engineers.

MR. McCAGUE: They do farm

under the lines, Mr. Ericksen, but you got that from what appears to be a reliable source. It seems high.

THE CHAIRMAN: We have a submission from Mr. Gordon Martin who isn't here. Dr. Porter is going to read it into the record, because it should become part of the record.

DR. PORTER: This is Mr. Gordon Martin's submission. It is quite a brief one, actually. It reads as follows:

> "My feelings about Hydro in Ontario and in fact for Canada come from the idea that we must reach an equilibrium in power use. We have had a surplus of energy in the last twenty years and have increased our consumption per person immensely. Since every new development transorms some of the land and is now threatening to do this on a massive scale, I feel this cannot continue forever. I feel Hydro should be aiming towards a no-growth policy. I know this will be a tremendously hard adjustment for both myself and others, but I feel it must come. If we do not choose to do it now, it will be forced on us or our children later.
>
> I realize this would involve a gradual slowdown of energy consumption and some Hydro plants would have to be build to accommodate this. I feel there is no policy in existence

and in fact most policies are quite the opposite. I feel the land is much too valuable and the price of development much too high."

Gord Martin, 130 Balsam Road, Atikokan, Ontario, December 4th.

There is another submission signed by 124 residents of the Atikokan area. It reads as follows:

"We, the undersigned residents of the Atikokan area, register here our opposition to the construction of the Marmion Lake thermal generating plant and the use of our recreational areas to dilute the adverse ecological effects of Ontario Hydro's efforts to sell power that has not been proven needed.

We believe that the short-term benefits to Atikokan merchants and the small amount of employment that will be made available to residents can, by no stretch of the imagination, balance the destruction of the environment that we ourselves enjoy and hold in trust for our children.

We ask that planning for the project be suspended until a 100% pollution-free plant can be promised. In this way, we maintain our right to protect our heritage."

There are 124 signatures attached to this submission.

DR. STEVENSON: Dr. Porter, I would like to ask Mr. Ericksen, whose name appears much like John Hancock's does on the Declaration of Independence, right at the top of it, just when this was prepared and to whom it has been sent and did it get to Ontario Hydro prior to the announcement of the site. He has gone.

DR. PORTER: As a matter of fact, Bill, Charles Ericksen's name isn't the first, it is number 111, so he may not know who and where actually the submission went. But he may have some ideas.

DR. STEVENSON: Mr. Ericksen, we asked a question of you in your absence. Could you give us the history of the petition that you signed? Has it gone to Ontario Hydro and when was it circulated?

MR. ERICKSEN: What petition?

DR. STEVENSON: This one opposing the Marmion Lake plant.

MR. ERICKSEN: I didn't circulate the petition. I just signed my name on it. This was about a month ago. I think it has been submitted to the government. I simply signed it. It is not my petition.

DR. STEVENSON: I see. Do you know whether it was circulated before or after Ontario Hydro announced the Marmion Lake site?

MR. ERICKSEN: I think it was

submitted at the Public Hearing in Atikokan.

DR. PORTER: This is not a submission to this Commission?

MR. ERICKSEN: No.

DR. PORTER: I am sorry. I thought it was.

DR. ROSEHART: I believe this submission is from a group or organization called the "Apple Cider Press". This is a newspaper in Atikoken.

DR. STEVENSON: We are getting some nods from this corner of the room. It is not a submission to this Commission.

THE CHAIRMAN: Is there a Mr. Norman Richard here? (No Response) I understand coffee is ready, so we will break for fifteen minutes and come back at 9:30 and have a question and answer period.

--- BRIEF RECESS

--- UPON COMMENCING AT 9:30 P.M.

Names of Speakers in Order of Presentation:

1) David Morgan
2) W.H. Calder
3) C. Ericksen
4) W. Creighton
5) C. Rose
6) Mr. Redfern
7) G. Kaiser

--- WHEREUPON THE HEARING ADJOURNED.

Ontario

THE ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Preliminary Meetings of the Royal Commission on Electric Power Planning

DATE: Dec. 10, 1975 **TIME:** 8:00p.m.

LOCATION: Kenora, Ontario

VOLUME NO: 14

OFFICIAL REPORTERS

Angus, Stonehouse & Co. Ltd.
14 Carlton Street 7th Floor
Toronto, Ontario M5B 1K5
595-1065

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ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Hearing held at the Ballroom, Holiday Inn, Kenora, Ontario on the 10th day of December 1975, at 8:00 p.m.

MEMBERS OF THE COMMISSION:

DR. ARTHUR PORTER	CHAIRMAN
ROBERT E. E. COSTELLO, ESQ.	MEMBER
MME. SOLANGE PLOURDE-GAGNON	MEMBER
GEORGE McCAGUE, ESQ.	MEMBER
DR. WILLIAM W. STEVENSON	MEMBER

VOLUME 14

BK/pb
take 1

---UPON COMMENCING AT 8:00 P.M.

THE CHAIRMAN: Good evening, ladies and gentlemen, and welcome to this preliminary meeting of our Commission. For my part, it is my first visit to Kenora although several of my colleagues have been here before. It reminds me in some ways of my own home country, although it has been about 20 odd years since I lived there in the North of England. So I am a lakeland district man, so I really felt at home in the Lake of the Woods area. Having been here once I can assure you I will be coming back -- not necessary on Commission business.

Well, the program this evening is going to be reasonably informal. In fact, we hope very informal as Royal Commissions go. What we will do is this; after a few brief introductory remarks by myself we will probably show a few slides. Then we will have the written submissions, and I think there are two or tnree that have been handed in. Indeed I have a list of five, but only a couple appeared in actual writing. Then, perhaps, we will break for coffee and have a free-for-all discussion. That is the normal way of things.

First I would like to introduce my colleagues and to tell them to tell you what their particular interests are in so far as this Commission

1:2 is concerned.

Solange Plourde-Gagnon is from Ottawa. She is a journalist, a housewife, and mother. Solange is looking after the consumer aspects of the Commission's work. That is all the appliances, all the reactions of people living in the homes to, perhaps, electric space heating, to the use of electrical appliances and so on and so forth. It is a very big area to cover, of course.

Next to Solange is Bill Stevenson. As most of you may know, Dr. Stevenson is a member of the Ontario Energy Board. In fact, he spends x percent of his time on the Energy Board and a hundred minus x with this Commission. Fortunately x is less than 50%, so we get more than half of his time.

Bill is an economist by training and he specialized for quite a few years in the field of electric power systems and the economics thereof, more recently, of course, on the economics of gas systems and oil and so on, because the Ontario Energy Board covers the whole field of energy.

Bob Costello is not unknown to these parts I am sure. He lived -- how long did you live in Thunder Bay?

MR. COSTELLO: I lived in Red Rock for a while and Sault Ste. Marie for four or five years. -

1:3

THE CHAIRMAN: So we have a native of the area in some respects. I regard myself as a bit of a native actually because my allegiance in the Grey Cup, for example, is with the western teams because I was in Saskatoon for a few years, and one's allegiance sticks when one has lived in the West.

Coming back to Bob Costello, he is an engineer and industrialist. He is the Vice President of the Abitibi Company, from which company he is presently on a leave of absence. Bob's special area of concern, as far as the Commission is concerned, is in connection with the priority projects which you will see are mentioned in our Terms of Reference. These five projects which have been identified and which the Commission has been asked to report on on a priority basis with respect to the needs of these facilities.

George McCague is a farmer and has farmed actively until very recently. When I say "farmer" I mean on a pretty big scale so far as I can see. We were discussing at dinner how he calls the herd of cows, and since I lived on the farm for a bit of my youth in the North of England, we had a different call system to what George has and we were practising this system in the top of this hotel. However, George has served on many commissions, the

1?4

Milk Marketing Board: he is very familiar with the agricultural activities of this Province and, indeed, with many of the people associated with agriculture. As, of course, you will well imagine George is concerned with the problems of farmers, problems of the food lands of the Province and this is his bailywick.

Perhaps in this very brief introduction -- and I am going to make it pretty brief -- because most of the time we feel should be devoted to input from you. We are here to be educated and we certainly have been educated up to now. I can assure you in our sort of tour in various parts of the provinces -- in fact, from virtually one end of the province to another -- north to southwest, northwest, northeast, and so on, so we have a pretty good coverage.

Obviously you will all recognize that electrical power is an essential commodity of our Ontario society. It is, indeed, of all industrial societies. It is that form of energy which, perhaps, has the greatest flexibility. You can sort of pass it around by just using wires. Wires are much easier to handle than pipes, so I think from that point of view it has got this flexibility. Perhaps that is why it has become so ubiquitous.

The

1:5

Commission has a single aim. It has got, of course, quite a few objectives. These are outlined in the Terms of Reference contained in the information kits, but if one had to sum it up in a very brief way, one might say that we are concerned with fitting the electric power system, which is essentially identifiable with Ontario Hydro, of course, to the needs of the people of this Province. Fitting the technologies to people's needs rather than people being fitted to the technology.

The present series of meetings we call the preliminary/public meetings have two things. First we want the people of the Province, and as broad a cross-section as possible, to identify what they believe are the major concerns relating to this electric power planning problem. In doing so they are providing us with the input we need in order to plan the main enquiry which is going to follow. In other words, the issues and concerns which have been raised in the meetings are being fully transcribed and they will be structured in the form of an interim report which, hopefully, we will be able to get out by the end of February, so that if we missed any of theses issues of concern then there will still be time for people to write in and say, "hey, you missed out what I said in Kenora or Timmins or somewhere else".

The other purpose of the meetings is to

1:6 obtain some guidance as to the format of the main enquiry which will follow. We have had a few ideas presented on this -- not as many ideas presented on the format as we had relating to concerns-- but just to give you an idea we had well over 150 written submissions to date just relating to concerns.

There has been a bit of overlap, of course, as you would imagine, a bit of redundancy, but not a single one of us has been bored for a single second of the whole meeting, so that although similar issues have been raised they have generally been put across in a slightly different way with slightly different emphasis.

Just to give you an idea of what some of these basic concerns are I have noted a few of them down here. First the growth in demand. People want this issue of the growth in demand, whether it continues as in the past at about 7% per annum growth rate, or whether it increased a few more percentages, or whether it decreased. The people want this issue to be debated in as much depth as we can.

Second -- these are not in order of priority. I have just written them down as I thought of them -- the protection of food lands in the Province. In view of an increased population by the end of the

1:7

century, this seems inevitable, it could be 12 million in the Province by then, and/increasing pressures on high quality agricultural land, there clearly could be problems in food production within the Province, and many many farmers feel there should be protection of the food lands. So this is another issue.

The third issue is the whole business of environmental impact be it from the burning of fossil fuels or the burning of nuclear fuels, or the establishment of transmission lines through corridors or the discharge of waste thermal energy to lakes and so on.

So these are the whole large and very important areas of environmental impact.

The question of quality of life, of course, has come forward on various occasions. People are thinking, perhaps towards the end of the century -- and of course the Terms of Reference of this Commission relate to 1983 - 1993 and beyond. It is a future oriented operation just by the designation of this specific time. So quality of life, whether or not it is identifiable with standard of living, has been coming across. Again it is obviously a topic which we will hear more and more about. Those are five of the issues.

If I had to count them up to date I suspect they would be in the order of 40. Some of them would

1:8 be sub-issues and so on.

We have heard about zero energy growth; I mean that to try to achieve this by a certain time which one or two other countries are setting as goals. I have a feeling that zero energy growth is being used in perhaps a different way is the way it was first used, I believe, in the Ford Foundation report, where zero energy growth implied that growth was on a per capita basis. So if you take the amount of energy, or or, say, electrical energy in this specific case, and use per capita, then the zero growth would imply that that amount of energy would still be used, but you would need more of it because of population increases and the need to provide jobs and so on.

Zero energy growth doesn't mean that in point of fact a static generation or transmission system because it has got to handle the increasing number of people.

The demand for energy too has got to be thought of in quite a bit of detail around the Province. You only need energy for two things, one is to maintain a person or an animal or a plant or a society, and the other is to provide for the growth of that person or plant or society and so on.

The provision of food is a good case in point here, because here is the certain demand for

1:9

energy just to provide food, and this is a real requirement and you see it identifiable here in the production of fertilizers and the like. So that the demand for energy, then, is of a very very fundamental and basic kind because, of course, it spells life or death.

My last word is on the public participation aspect of this Commission's work. We have been doing our utmost to bring the people into the meetings, and when they have arrived to set up an informal sort of environment so hopefully nobody is inhibited from getting up and saying what they think. I reckon, for instance, and maybe the same thing is going to happen tonight. At Thunder Bay, I think just about 90% of the people in the room had participated in the discussion before we closed down. So that here is perhaps the key to the whole success of this Commission: the extent to which the public are willing to come forward and say, "we feel that growth at this sort of level is of the right order, or that certain types of energy electric power generation are better than others and so on," Because decisions relating to the 1983 - 93 period have to be taken in the not too distant future, because, as you know, some of the facilities take ten years to build. Therefore, you can't suddenly decide on having something built two or three years hence, or something like this. It is

1:10 a long planning period, so the people of the Province have, therefore, a time right now to really provide or participate in the decision making process relating to decisions which are not only going to affect their lives but the lives of their children, grandchildren, and great-grandchildren and so on. Because these decisions,even in the most simplistic sense taken today and next year, are going to be affecting very definitely the people living in 2020, and maybe in some respects way way beyond that. Hence the great importance of expressing one's views and, therefore, participating in a very real sense in the democratic process.

I have a quote from a fellow from Sweden which was pinned to the back of a piece of paper, but that piece of paper I seem to have left in my room. More or less what he said was this: that this was going to be a true test of democracy, the way the energy decisions are going to be handled all over the world. He wasn't talking about Canada, of course, but on a global basis this is going to be the real test of democracy. We on this Commission, and hope many of you too, perhaps will think he has a point.

On that note may we -- Bill, would you like to show these slides. This is just a sequence of slides I think you probably be interested in.

---SLIDE PRESENTATION.

1:11 ---UPON RESUMING AFTER SLIDE PRESENTATION.

THE CHAIRMAN: Thank you, Bill. I think we can pass now to the briefs. I have a brief here from Mr. Miaszkiewicz, who is the engineer manager of Kenora Hydro. Is he here?

MR. MIASZKIEWICZ: Yes.

THE CHAIRMAN: Good. Would you like to come to this table, please?

SUBMISSION BY MR. MIASZKIEWICZ:

MR. MIASZKIEWICZ: Mr. Chairman, members of the Royal Commission, ladies and gentlemen, I would like to present my views on some aspects of electric power planning.

"Our local distribution system, which supplies the Town of Kenora and most of the Town of Keewatin, is completely dependent on the supply of power from Ontario Hydro and it is therefore of the utmost importance that Ontario Hydro system be planned to provide a reliable and secure power supply and develop to adequately meet all future demands.

2. The following aspects justify, in my mind, the need of a reliable and secure service:

(a) Social Safety - it depends on street lighting; traffic control; elevators; water and sewer pumps, and many others.

(b) Standard of Living - any reduction

1:12 of the present standard would meet with strong oposition and protests.

(c) High cost to the Community should the use of existing facilities such as Schools, Hospitals, Nursing Homes or the Commercial establishments be curtailed by power interruptions.

3. The public demand for service and expansion of facilities is beyond the control of this utility. As there is an apparent shift from traditional fuels such as oil and natural gas to electric heating, and analysis is required to assess the total energy market and to include the results of this analysis in future electric power planning.

4. The following measures to conserve energy should be considered:

(a) Develop strict Building Codes for the use of all forms of energy and ensure that they are enforced.

(b) Devise new energy management concepts to serve large complexes, for example, demand contracts.

(c) Promote the most efficient uses of energy.

(d) Include energy conservation topics in Educational programs.

5. Ontario Hydro should consider

1:13 minimizing the expansion of its power generating facilities and co-operate in an Inter-Provincial electrical grid system.

6. Discontinuation of equipment rental programs, for example, water heaters, should be considered. These programs have served a useful purpose in the past by building up electrical load and consumption and reducing unit cost per kilowatt hour, but there is no apparent need for them in the future." Probably people would still have them anyhow, but maybe this would be smaller. Maybe I should add that nobody likes power interruptions planned or unplanned, as we all depend on it very much -- electrical energy. However, it makes some difference when such interruptions occurs when the temperature outside is five celsius below, or above, or fifty below. Celsius or fahrenheit, or forty below. It is the same thing.

THE CHAIRMAN: Thank you very much, Mr. Miaszkiewicz. I wonder whether you would mind just staying there for a few minutes, because sometimes the members of the Commission, or -- and I should have introduced him before, Dr. Bob Rosehart, who is the Commission's scientific counsellor -- might have some questions or for clarification, or they might wish to seek your help in certain areas such as I am going to do now by asking you first, if there is much

1:14 take 2

of a trend towards electric space heating in new homes being built in the Kenora area?

MR. MIASZKIEWICZ: Especially in 1975, there are more houses going to electric heat, especially in Keewatin where there is no natural gas or oil, but also there are quite a few houses that have been converted to electric heating in Kenora.

THE CHAIRMAN: Have they been converted and some have been built?

MR. MIASZKIEWICZ: New houses with electric heating.

THE CHAIRMAN: I see. Could you give us, say, a rough idea of the new homes that have been built -- what sort of percentage would you say are electric heated?

MR. MIASZKIEWICZ: I would say at the present time maybe 30%.

THE CHAIRMAN: Thank you.

MR. MIASZKIEWICZ: And in the past maybe 10% or even less.

THE CHAIRMAN: I see. The other point I was going to raise/ is: you mentioned promoting the most efficient uses of energy. I am not going to probe any ideas you may have at this time, because it wouldn't be appropriate, but I would like to say that, if you do have any ideas in this field, and in your unique

2:15

position, I am sure you will build up a whole series of ideas, we would be very interested in hearing about them. So if you would at any time let us have those.

MR. MIASZKIEWICZ: The most efficient uses, for example, also electric energy and other forms of energy.

THE CHAIRMAN: Thank you very much.

MR. MIASZKIEWICZ: There may be many ideas issued by Ontario Hydro which gives us the best ideas in the use of any kind of electrical equipment.

THE CHAIRMAN: I wondered in the case of any industries that you came across where you personally noted any way of conserving energy and, perhaps, particularly electrical energy. This is the sort of thing I thought you might have evolved some ideas on.

MR. MIASZKIEWICZ: I am sure it could be done in this respect. I know energy has been very cheap in Ontario and this is probably why it is wasteful.

MME. PLOURDE-GAGNON: Number 5, you mentioned Ontario Hydro should co-operate in an inter-provincial system. How do you see the Ontario Hydro's collaboration within this system when the

2:16 Prime Minister of Quebec, Mr. Bourassa, promoted this himself. How do you see Ontario Hydro's collaboration in this?

MR. MIASZKIEWICZ: It would appear to me that the peaks in the utilities don't occur at the same time. For example, in one province it could be a shift of two hours which would mean in this case the province, or the generating station where the peak is is not operating at its peak capacity and they could give power to other areas which have the peak at the same time.

DR. STEVENSON: That is an interesting point, because quite often the observation is made that the natural sales are north and south, because we are selling from a winter peaking system in Manitoba, let us say, to a summer peaking system in Chicago. I don't know about Minneapolis-St. Paul. Do you think that would have a summer peak or a winter peak?

MR. MIASZKIEWICZ: I could expand on what you mentioned as well. For example, the peak in Ontario in wintertime, and in the States it is in the summer, so for example, the peak could be sold in the summer in the United States, and in the winter from the United States to Canada.

DR. STEVENSON: But we were talking in Thunder Bay about the plans of Manitoba Hydro to export

2:17 great new blocks of Nelson River power south. They were saying, why not bring it into northwestern Ontario and we will not have to build these power stations here. You have raised a point that hasn't been raised before, that one reason that it might be possible is that there is a time zone change. Where does the time zone change occur?

MR. MIASZIEWICZ: The time zone changes, I think, in Saskatchewan.

DR. STEVENSON: There is another one somewhere around Atikokan; isn't there?

MR. MIASZIEWICZ: Atikokan in Thunder Bay -- outside of Thunder Bay.

DR. STEVENSON: So even an hour difference gives you some opportunity.

MR. MIASZIEWICZ: It could.

DR. STEVENSON: I had another question for you, sir, that was on your energy conservation objectives which are wholly admirable, no question about that. The building codes question is one that has been receiving quite a bit of attention from the Ontario Ministry of Energy. Quite a lot of discussion with Ottawa at the National Research Council over installation standards and where should the building code guidelines be set, federally or provincially. Where should the guidance be for the Municipal building codes?

2:18 This is a question in which I am not that well informed, but I know it has been slow going as between the establishment of guidelines for local building codes.

I just wondered what your experience in Atikokan is?

MR. MIASZIEWICZ: I don't have too much experience in building codes, because, for example, electrical wiring is being inspected by the inspectors from the Ontario Hydro, so we as a utility -- we don't make this inspection. We don't make an inspection, but Ontario Hydro, they are checking wiring, mostly.

I would think that it should be provincial codes or even -- which would have to be enforced by the building inspectors, because everybody knows that much of heat could be saved if the insulation was sufficient.

DR. STEVENSON: Would you be prepared to recommend, for example, that all new housing be insulated by provincial code to electrical heating standards, no matter how the house is heated?

MR. MIASZKIEWICZ: It would appear, of course, that in the past gas was considered as a cheaper source of energy in this case. Electrical heating was higher than other sources, so it would appear that this could be revised now and maybe the same standards should be made for all housing irrespective of the type of

2:19

heating.

DR. STEVENSON: My last observation, there is another new issue you raised. No-one before in our travels suggested that Ontario Hydro and the Municipal utilities go out of the water heater rental business. I take it that is mostly water heaters. Are there other rentals?

MR. MIASZKIEWICZ: There could be others, lighting and this.

DR. STEVENSON: Yes.

MR. MIASZKIEWICZ: I think that this program started in the past when there was competition between the electrical utilities and gas companies in order to make more customers and sell more gas or electrical power.

DR. STEVENSON: That's right. Now, of course, Ontario Hydro and the Municipal utilities have substantial investments, millions and millions of dollars in these heaters and so on, as you are suggesting it is, presumably, that it would include simply not providing any additional or new heaters.

MR. MIASZKIEWICZ: Any additional. It is just for consideration.

DR. STEVENSON: Quite an interesting idea. Ontario Hydro has a serious capital problem, as you know, the methods of making it possible for

2:20

Hydro to save some new capital requirements are, I'm sure, quite welcome. Thank you, sir.

MR. COSTELLO: I think these water heaters were rented or sold by the Municipal Hydro rather than Ontario Hydro. I know they are in Toronto. The water heaters are sold by the local utilities and not by Ontario Hydro.

MR. MIASZKIEWICZ: Ontario Hydro, as far I know, installed them on a rental basis.

MR. COSTELLO: I know in Etobicoke the local municipality looks after that.

Do you have controls here so you can ring your water heaters off during peak periods?

MR. MIASZKIEWICZ: No, we used to have such controls in the past, but they were phased out. At the present time there are no controls.

MR. COSTELLO: Don't you think it would be desirable to get that control in order to break the power peaks when you look at the cost of building new generation?

MR. MIASZKIEWICZ: It would have some effect, yes.

MR. McCAGUE: Mr. Miaszkiewicz, can you tell us, sir, approximately what the increase in demand has been in Kenora in the last twelve months compared to the prior twelve months?

2:21 MR. MIASZKIEWICZ: Our statistics show that for a seven year period the increase in our demand was about 33%. Assuming exponential growth it would be about 4.2% on the average, but there are considerable variations. Like, for example, in one year we had an increase of 11% over the last year, and in one month of one year there was an increase of 19%, and in another month there was a decrease of 9%, which means that some variations occur. The weather factor in the case of small utilities could have a variation, so what I said, on the average, about 4.2% of an increase.

MR. McCAGUE: You referred to conversion from other types of heating. What conversions in particular have there been? From what other types to electric?

MR. MIASZKIEWICZ: Well, especially oil.

MR. McCAGUE: Mostly oil.

MR. MIASZKIEWICZ: Mostly oil.

MR. McCAGUE: Yes.

MR. MIASZKIEWICZ: This trend started in 1975, and if it continues it would put some pressure on the utility, because we have to provide service and we have to install new transformers and update others and so on.

MR. McCAGUE: Thank you.

2:22 DR. PORTER: Thank you very much, Mr. Miaszkiewics for your very interesting submission. You will notice that the Commission is doing its part for conservation. We have had the Christmas lights switched off.

Although I don't have any more written submissions I have four other names down here. Is Mayor Kahoot here?

---NO RESPONSE.

THE CHAIRMAN: Is there a representative from the Township of Jaffray and Malick.

MR. GARROW: Yes.

THE CHAIRMAN: Would you like to come forward?

SUBMISSION BY MR. J. GARROW.

MR. GARROW: It seems to me that we are all fighting the same cause; it is a good cause.

THE CHAIRMAN: Sir, your name, could we have it?

MR. GARROW: J. Garrow, Reeve of the Township of Jaffray and Malick.

It seems to me that we are all fighting the same cause, and it is a good cause. We are all getting concerned with the cost today in taxation, and when you drive into the big cities and

2:23

drive into the towns, drive around and see all the Hydro just turned on it makes you stop and think to yourself, what are we doing with all this. It is unwarranted. You don't need that much Hydro. When you drive out into the municipalities we haven't got that kind of Hydro to turn loose, so maybe that's why the taxes are low, this is going to take effect on it, on taxation have an effect on the whole world today.

Hydro is trying to pace with the conditions of industry, but every time you look around you see new dryers going into a house, you see new washers going into a house, you see a whole of new electrical appliances going in the houses. People are not concerned any more. I can see the day, and it is not too far away, that you are going to be alloted a quota into each house, this ain't too far away to get away from the cost of taxation. I believe this is what we are going to see over the years to come, that each place will be alloted so much.

You will go into some houses and turn on the hot water tap and steam is coming out of the tap. This is unwarranted. They have hot valves on their hot water tanks. If they only stop for five minutes and thought of what this is costing them, I think the trend would turn the other way, but there don't seem to be any indication along those lines. People haven't been

2:24 advised of this, they are taking hot water out of the tap and then they run the cold water tap for ten minutes to cool off the hot water but, you are working both ends again the middle. This is going on and on.

We have briefs, and we have all you people going from one coast to the other coast, it is costing money, it is costing Ontario Hydro money, and when you drive downtown you see all the Christmas lights all turned on. One gentleman says the town of Kenora needs the revenue. What little bit of revenue they are getting back out of that in comparison to taxation just to build these generating stations I think is very minoritive. Thank you.

THE CHAIRMAN: Thank you very much, Mr. Garrow. Obviously you are in favour of a conservation ethic.

MR. GARROW: Right.

THE CHAIRMAN: And you believe that a strong educational program is going to be needed, perhaps starting in the very early stages of school, and that maybe the time isn't far off when quotas -- energy quotas -- will have to be applied. I have got your message right, have I? I may have missed this, but this is roughly what you have been telling us?

MR. GARROW: Well, it seems to be the trend, sir. You know, when you see what is happening

2:25

all around you then you look at your taxation, you are wondering why all of this -- all the waste. We must be a very rich country, yet at the same time it seems we are heading downhill.

THE CHAIRMAN: Thank you very much.

Is there anybody here from Balmertown?

---NO RESPONSE.

THE CHAIRMAN: Is Mr. Doug Johnson here?

MR. JOHNSON: Yes, I am here.

THE CHAIRMAN: Good. Mr. Johnson is the Vice President of the Chamber of Commerce, presumably of Kenora.

SUBMISSION BY MR. D. JOHNSON.

MR. JOHNSON: Yes. I don't think I need a microphone. I think my voice will carry far enough without any trouble at all.

Unfortunately our President would have been here to address you. I think you had dinner with his wife and I understand he is in Toronto.

The first Vice President is here, but, we decided, because of his occupation, he may not be the best man to represent us. He is the area manager of Ontario Hydro. There might be a little conflict, besides he probably has too much knowledge, and he might answer the questions we might raise, and maybe we should raise them and admit our ignorance.

2:26 First of all, on behalf of ourselves and the old town, welcome to Kenora. We are glad you like it here, come back in the summer when it is really nice. We are particularly pleased to have a Royal Commission, to Kenora and recognize that, while we are not the biggest place in Ontario, maybe we are the most important. We like to think so anyhow.

There are a couple of areas which we thought may be looked at by the Royal Commission. As I understand it, preliminary meetings are to get some input from the people in the areas.

One of the first things that came to our minds was that, when you are looking at power, we felt you have to look at power as a component of the entire energy package. We particularly are talking about the natural gas and electric power and the trade-off between gas and electrical power. This theory has been already covered tonight to some extent. Dr. Porter asked something about electrical heating. As another aside, I have a split house, my downstairs I heat with gas and my upstairs I heat with electricity. My gas burner broke down and I was going to replace it and discussed it with an acquaintance. This fellow said why don't you go all electric. Weare not going to have any gas by 1980 anyway. Maybe that is beginning to be the thinking of people, that we had better go electric,

2:27 because we are running out of gas.

I think another component that comes into that is the fact that we have always accepted electric heat as being more expensive than gas. We are now recognizing in the next time this is likely to turn around, and also in our rather abundant times, where people have two cars, big homes, and vacations and everything, I think people are beginning to say electric heat is more comfortable and I will pay a little more money for it.

I think that could be a component of people going to electric power.

We believe that you have to give some consideration to the demands that are going to be the needs for electricity for our continuing oil crisis or rising prices, however you want to put it.

Another area we think you should give some consideration to is our availability as an arm of government policy or an instrument of government policy. This is a thing we are going to cover in two areas, but the government -- theory we are thinking of here is that it has been for some time government policy, or supposedly government policy to try and decentralize the big cities, Toronto, and that has been an area which has been a concern of all the Ministries.

One thing that can help decentralize

2:28 some of the industry out of those areas, one thing we can use in our area, to get the people here or to get industry here which, in turn, would attract jobs, is the availability of cheap power or cheaper power. And there is nothing that cheap any more.

I think another area you should look into is, should power be tied into the government policy long range goals in other areas, such as decentralization of Toronto or stocking the golden horseshoe areas.

Another area we can get into is our concern with the pricing of power. We have been talking to people in getting our points for this, there were two areas of concern. Probably, Ontario has operated on a policy of equalization of Hydro rates across the province. This causes us two concerns. The first concern is that here in Kenora (with which we are familiar) we draw our power from two dams we have up here, White Dog and Caribou Falls. Not being power experts and economists, we are not sure how this works out. Those plants are about 15 years old. We know that in Ontario Hydro's financing they are depreciating those plants and writing the depreciation into their costs and also writing the interest cost, bond issue, and redemption cost of the bond issue, so that it is kind of being paid for twice, but we are also of the feeling that we are

2:29 probably drawing here in this area cheap power.

We are paying the same price as someone else drawing what we consider more expensive power, the power plants itself. We think there should be some consideration for the fact that we are able to draw cheap power up here, in that this can be tied in with the, you know, possible government policy of saying let's encourage development in the North if we price it realistically here. Not being economists we tend to believe, this is a pretty prevalent feeling up here, that we are paying -- that Hydro is making more money on us than they are on people drawing power from the Pickering Atomic Energy plant.

Our second concern in that area is that if we accept the fact of Ontario Hydro -- it is a good thing for the province to have equalized energy costs i.e., electric power costs, we say fine, let's make equalized energy costs, and you people probably have not driven up here, but we pay ten or fifteen cents more a gallon here for our gasoline. So do one or the other, either equalize all energy costs including Hydro and gasoline and other forms of energy, or give us what we believe, power at our cost, which we think is lower than down east.

THE CHAIRMAN: Thank you very much. Perhaps you would like to remain there just for a

2:30 short time. Do please sit down.

A very key Term of Reference of the Commission is to consider the long range planning concepts relating to electric power planning to the regional planning of the province, so that this certainly ties in with your concern relating to population distribution, industrial distribution and so on, and to some extent, of course, this pricing policy.

So the issue you raised is certainly one with that we have very great concern with.

Bill, I am sure you might like to contribute to this.

DR. STEVENSON: We heard about equalization in power rate down in Welland the other day where people were saying the very same thing, we are so close to Niagara Falls down here, why can't we have cheap Hydro power?

Well, you know, it wasn't that many years ago that Ontario Hydro did a charge on the basis of zones in this province in which it did attempt to match the local cost of producing power and charge it on that basis in that zone. This became increasingly complicated as the sophistication of the grid developed around the province and the treating of power flows became very difficult. With

2:31

this 500 kV overlay grid that I was talking about, I am advised by people that can understand these things,(I can't, I am one man, I am a money man, not a technologist) that it will become almost impossible even theoretically to trace the flows, so whether Caribou at this moment is lighting these lights, or Pickering, or whether it is coming from Nelson River, or from Quebec, is almost in theory impossible to tell.

I think that probably the technological development of Ontario has been conspiring against that point you made. It is going in the wrong direction. However, I don't want to foreclose it. It will be reported as an issue raised and the government may at that time take it into consideration.

There was another point you made that I found interesting, which is on the general point about power as an instrument of industrialization. Were you suggesting in that point, Mr. Johnson, that the government should decide that, as a part of the northern industrialization possibly it will subsidize Hydro up here?

MR. JOHNSON: I don't like the word "subsidize" I did say I thought power was cheaper up here to start with.

DR. STEVENSON: But suppose it isn't.

MR. JOHNSON: I don't think we were

2:32 really suggesting that. I don't want you to get the wrong impression. Even though I represent the Chamber of Commerce, the Chamber of Commerce sometimes gets a bad name, you know, for saying growth at any price. We don't want that up here. We don't want a steel mill. We don't want any power plants up here. Our point was that, if power is cheaper here, if there is to be industrial development here, then you are getting into a whole area of how you get some industry here; how do you get some breadth or width to our industrial base. We have the tourist industry and we have the government, that is our point here. Maybe we want a little broader base. One of your Commissioners has spent some time in Red Rock where it is a one industry town, so something to draw industry to those areas. To get them to come here, one thing could be done if power was cheaper, and if government policy became that strong, yes, they could subsidize it, but we are not really suggesting that.

tape 3 DR. STEVENSON: Down in Atikokan, after a very long series of public meetings, Ontario Hydro has taken Marmion lake as the site for the newest nuclear power station in Ontario. What do you think would be local sentiment about large central power stations in this area. What do you think people would think about that?

3:33

MR. JOHNSON: That is interesting. You would get mixed reaction. I would be in favour of it. I understand Hydro is looking at another one in this area. Personally, without getting into all the different views, I would be in favour of this kind of thing. It would provide a proper base of employment for the area. If we could get it inside the town boundaries and tax the hell out of it it would be better.

DR. STEVENSON: A true member of the Chamber of Commerce, I can see.

MR. JOHNSON: I don't know, I think you would get mixed reactions. Some people would be for it and some people would be against it. Some people are opposed to any kind of growth.

DR. STEVENSON: And also that the real industry of the Rainy Lakes and Lake of the Woods area is tourism.

MR. JOHNSON: Well, it is a really the paper industry. Well, in the whole lake area probably tourism is number one. North and south, probably the paper mill is still slightly bigger than tourism.

MR. COSTELLO: Mr. Johnson I guess it was just last week in Welland they claimed, because they were right at Niagara Falls, there was really no transmission involved, that they should have

3:34

cheap power. At the present time there is a net flow of power from southern Ontario to northeastern Ontario, so expensive power is not flowing up into the Timmins area. They, of course, think they should have cheap power too, when they are now importing some expensive power. I don't know how you analyze this whole situation. I think Bill did it pretty well. The power is going around and around the system.

I do remember Mr. Marchant telling me when I was trying to get him to move that dreamline 40 miles west of Corcoran so we could get some money into Smooth Rock Falls, he had a good point. He said industry tends to locate where there are advantages, and giving them money is not the way to do it, because it isn't permanent.

Getting industry in a one industry town is a problem. I think there are quite a few of them. I think their biggest problem really isn't the cost of power, it is the cost of transportation. Unless they are getting their raw materials locally they have to bring the raw materials in. The markets are down in this so-called golden horseshoe area. I think the problem really is transportation as I see it.

MR. JOHNSON: Yes. Personally I would quite agree with you on that, transportation is really the key problem.

3:35 MR. McCAGUE: Mr. Johnson, your comment in connection with energy power planning being used as a tool for development, I wonder are we not almost obliged to look at this rather seriously and take Peel County, Brampton, the town or city of Brampton is in Peel County. I guess Peel County is the best land in the province. It is mostly class one and they have lost 61% of their land from 1941 to 1971. It is a 30 year period, true, but the way they are developing there they are going to lose almost all of it.

What is the answer to this? If industrial build-up, housing build-up, house highway, etc. etc. continue over that good land it is going to impair our position as far as food producers are concerned very seriously. What is the answer to getting development in areas where the productivity of land isn't as good.

MR. JOHNSON: Well, this is why I raised this point , Mr. Costello I think stated that transportation is the major cause of industry not coming into this area. I quite agree with that. However, source of energy can be of interest to industries like that. And there is no question we have enough of beautiful land around here, which is beautiful to look at, but we are not going to get much of a living off that. And there is not a heck of a lot of farming land around here. There is a

3:36 tremendous amount of highly irrigable farm land being taken over by industry, and as long as you go on building up, say your projection of 12 million people by the year 2000, or if things go on the way they are, we are going to have another million sixhundred thousand in the golden horseshoe and the other fourhundred thousand up here. We don't want a town of a hundred thousand sitting here in Kenora. One of the areas you could look at is for power planning. Maybe it would be better to build a power plant in the North. That is one thing that you can do in this area. Sure you have to have a capital cost in building lines. You do a bit of a line loss. I don't know what it is, but that is one industry you don't have to settle on farm land in Brampton. I am not really familiar with this area. As far as I know Timmins is in the south, but maybe you are going to have to have a look at these things. Maybe transportation of power in the north or penalize it in the south through industry, one or the other. It works out to exactly the same thing. This is something I think you people should look at.

MR. McCAGUE: I think we agree, Mr. Johnson, that there is a real need in government planning in connection with this matter, and by golly, I think there is no doubt at all that by the year 2000, if something isn't done about conserving our

3:37 good productive land we are going to be short of food.

MR. JOHNSON: Then you will have to have an agricultural commission look at it.

THE CHAIRMAN: Thank you very much, Mr. Johnson. You have performed very eloquently and we are grateful for your participation.

At this stage, ladies and gentlemen, can we have a break for coffee. Perhaps we can reconvene in about a quarter of an hour.

---A SHORT ADJOURNMENT.

---UPON RESUMING AT 10:00 P.M. THIS PART OF THE HEARING WAS NOT REQUESTED TO BE TRANSCRIBED. LOG OF NAMES FOLLOWS.

3:38

SPEAKERS IN ORDER OF PRESENTATION:

MR. CARNAKI

PAT MALY

RUPERT ROSS

ANGELA HARRIS

DOUG JOHNSON

GORDON WEBB

JIM McQUARRY

BRIAN CHRISTIE

MICHAEL MILLER

W. SCOTT

- - -

Ontario

THE ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Preliminary Meetings of the Royal Commission on Electric Power Planning

DATE: December 16th, 1975 **TIME:** 8:00.p.m.

LOCATION: Kingston, Ontario.

VOLUME NO: 15

OFFICIAL REPORTERS

Angus, Stonehouse & Co. Ltd.
14 Carlton Street 7th Floor
Toronto, Ontario M5B 1K5
595-1065

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ROYAL COMMISSION

ON

ELECTRIC POWER PLANNING

Meeting held at the Holiday Inn, Belle Vue Room South, Kingston, Ontario, on the 16th day of December, 1975 at 2:00 p.m.

MEMBERS OF THE COMMISSION:

ROBERT E.E. COSTELLO, ESQ.	CHAIRMAN
DR. ARTHUR PORTER	MEMBER
MME. SOLANGE PLOURDE-GAGNON	MEMBER
GEORGE McCAGUE, ESQ.	MEMBER
DR. WILLIAM W. STEVENSON	MEMBER

VOLUME 15

--- On Commencing at 2:00 p.m.

Opening remarks by Dr. Porter.

Opening remarks by the Chairman.

THE CHAIRMAN: We will now hear from the Brockville Public Utilities Commission.

MR. WADDINGTON: Mr. Chairman, Madame Plourde-Gagnon and gentlemen, we just have a couple of points to make.

First I would like to correct a word in the top line of page 2 of our submission. The second word should be "concern" instead of "govern".

The points we have to make are these: first, to ask for the attention of the Commission to the distribution and retailing aspects of the electrical utility industry as distinct from generation and transmission; to ask for attention to the problems of the municipalities and their customers as well as to the problems of the province and the public at large.

The distribution of electricity in Ontario is,as you know, largely in the hands of the municipalities and they have little or no control of demand and there are many social, economic and political obligations to supply the demand as it occurs. If restraint is necessary we are suggesting that it be long-term and that it be implemented

through influence on demand rather than restriction of supply.

We are looking for help too in relation to the appearance of electrical distribution systems. There are some features of our system that we are not particularly proud of but improvement of that appearance would cost money and we would like any impressions that you get in the course of your work as to the willingness of the public to accept in the price of electricity the cost of making improvements in appearnace.

Our second point is to look to the Commission for advice on the many complex economic and technical questions which arise to assist in developing an informed public opinion on these questions. For example, we hope to learn something from your work on choices as between energy forms. We, in recent years, have been discouraging the use of electrical energy for water heating. Whether we are right to do so or if in a case like that, where some form of energy is going to be used in any case, is it better to use electrical energy coming from sources which tend to be longer lived than fossil fuel sources.

Another example we would be glad to have advice on are the facts about CANDU both now

and in its prospects for development in the future.

That is a summary of what we have to say, Mr. Chairman, and it only remains to recognize the importance of the job that you are doing and to wish you well with it.

THE CHAIRMAN: Thank you, Mr. Waddington. Would you just stay there for a few minutes please.

Any questions, George?

MR. McCAGUE: Not at the moment, Bob.

DR. PORTER: I think this is a very clear statement of issues and concerns and that of course is the major objective of these preliminary meetings. We sometimes do seek clarification of course, perhaps additions, but this strikes me as being a very clear statement.

DR. STEVENSON: Mr. Waddington, in your submission you use the term "our Commission has ceased to promote the use of electrical energy for water heating", but I think I heard you say that you have discouraged the use of electricity for water heating. If I am correct, would you care to say which of the two is the more accurate?

MR. WADDINGTON: The written word is the more correct statement rather than the oral one.

DR. STEVENSON: The point still

remains. Your question is, can the Commission help you decide what the best way of heating water or, presumably, of other uses for which electricity is in competition with gas and oil.

MR. WADDINGTON: Yes.

DR. STEVENSON: What is the best way to meet this need in this province? This has got to be the key issue if not for this Commission then certainly for the province and for the Ministry of Energy. We are hoping to get some direction from the study that I mentioned last night that is now underway in the Ministry of Energy on this question of the optimum uses of the energy resources available to the province. It is called an Energy Balance study.

MR. WADDINGTON: Yes.

DR. STEVENSON: And one hopes that will help to clarify this question because I know if I were in your position I would wonder myself what was proper policy from an Ontario perspective.

MR. WADDINGTON: Will the result of that study be published?

DR. STEVENSON: I can't speak for the Honourable Dennis Timbrell but to the extent that it is made available to us as we go along in public hearings and so on it will automatically be

publicized by us, yes, that is right.

Is conservation having a discernible impact on your load growth, Mr. Waddington?

MR. WADDINGTON: Not that we can recognize, no. It is continuing about the same rate as it has for many years.

DR. STEVENSON: What is the saturation of new residences with electric heating in your service area?

MR. WADDINGTON: I would ask Mr. Roughly to answer that.

MR. J.H. ROUGHLY: On the mass produced market almost zero at the present time. On the more elite, more costly homes, about 50% at the present time; but in the mass market, almost nil.

DR. STEVENSON: Are there enough of these elite residences to make a discernible impact on your load growth?

MR. ROUGHLY: Not now. There was some years ago. I would say up until abour 3 or 4 years ago there were but at the present time the main housing drive in our city seems to be in the mass produced houses. That seems to be the way things are going at the present time.

DR. ROSEHART: Is that gas heating?

MR. ROUGHLY: Yes, predominantly.

MR. McCAGUE: Is there much conversion from gas and oil to electric?

MR. ROUGHLY: No, none at the present time that I know of and has not been for perhaps the last three years. There was some move towards conversion about five years ago but with the change in the times and the change in costs we found that market just disappeared.

THE CHAIRMAN: Have you considered, or do you ring off your water heaters during peak periods as a matter of load control?

MR. ROUGHLY: No, not at this point in time.

THE CHAIRMAN: That is a possibility, I presume. It keeps coming up everywhere we go.

MR. ROUGHLY: Yes. Some years ago we did a study with a supplier on a system of that type and we found that for the most part we were only shifting the time of the peak, not in actual fact reducing peak by any significant amount, not enough to carry the cost of the equipment.

THE CHAIRMAN: Can't you stagger them on and stagger them off, though?

MR. ROUGHLY: Yes, we can, but even at that point in time, with only 4,000 water heaters--

THE CHAIRMAN: That is all you had?

MR. ROUGHLY: Yes. There was not enough load to be significant.

THE CHAIRMAN: Thank you very much.

DR. STEVENSON: I have one last question, the question of bulk metering. We are doing a little survey, Bob and I, on the question of bulk metering on new apartment buildings. I don't know whether you have a large electrically heated apartment building in your service area but whether you have or not, would you bulk meter it?

MR. ROUGHLY: We have a group of buildings, there are seven buildings running 35 units a building so the complex is quite large although the buildings themselves are not too large. They are all electric and bulk metered. All our apartments are bulk metered.

DR. STEVENSON: What is your impression of the additional electrical consumption that will result from the bulk metering? Would you have any feeling for that, personally?

MR. ROUGHLY: No, I have no feeling for it whatsoever. I don't know.

DR. STEVENSON: Most people don't. It is obviously a study that has to be done.

MR. ROUGHLY: We are looking at it

primarily from an operator's standpoint, in collection of accounts, and from the standpoint of the provision of capital to install the metering system.

DR. STEVENSON: The economies are obvious. The extra, if you like, wasted energy is not nearly so clear.

MR. ROUGHLY: That is correct.

DR. STEVENSON: That is the problem in that issue.

MR. ROUGHLY: I suppose the term, conservation of capital or conservation of energy, one or the other.

DR. STEVENSON: True. Thank you very much.

THE CHAIRMAN: Thank you, sir.

MR. ROUGHLY: Mr. Chairman, if I may, I have some copies of Mr. Waddington's submission if you would like them. The one correction that he made has not been made in the copy, sir.

THE CHAIRMAN: We will now hear from Mr. H. N. Britton of the Belleville Utilities Commission.

MR. H.N. BRITTON: Mr. Chairman, and members of the Royal Commission on Electric Power Planning, I have previously given copies of my

submission to you and I propose to read it.

It is a privilege for me to have the opportunity to present this brief submission to your Commission on behalf of the Public Utilities Commission of the City of Belleville.

Since purchasing the distribution system from the Ontario Hydro in 1931, our Commission has been responsible for the purchase of electricity wholesale from Ontario Hydro and our retailing function, as I am sure you are well aware, consists of planning, constructing, operating and maintaining a sub-transmission and distribution system as well as financing the operation.

The Belleville Utilities Commission is composed of two members elected every two years by the citizens of Belleville plus the Mayor of the City who is a member of the Commission by virtue of his office and, of course, is elected by the same citizens. The Commission concerns itself primarily with policy making, while the administration and operation is carried out by the staff of which I have the privilege of being the General Manager.

Our Commission derives its authority from various Provincial Legislative Acts, but the main ones are The Public Utilities Act and the City

of Belleville Act, 1937. From these it is entrusted with the operation and control of the electric and water systems in the City of Belleville.

The task of forecasting the needs of a medium sized utility such as ours a few years in advance is not easy. Your task to determine the needs of an electric system to serve the people of Ontario for the period of 1983-93 and beyond is indeed formidable. We sincerely empathize with you and, because of our vested interest, wish you success in your endeavours.

Our City is at the hub of a fine rural and recreational area. Over the past 14 years our average annual rate of peak load growth has been just under 6% with annual variations of from -1.4% to +13.7%. Since 1970, particularly, many new industries and commercial activities have established in our City. This has been in large measure due to the activity of the Belleville Economic Development Commission and encouragement of industry by the Ontario Government to locate outside of the large metropolitan centres and particularly in Eastern Ontario. Indeed, this increasing growth rate will continue for some years to come as the number of large loads already committed for 1976 will undoubtedly give us the

highest annual growth in our history. These large load commitments can be classified in each of the areas of Industrial, Commercial and Residential.

Not only are we experiencing unprecedented load growth, but one can also detect customer expectations for increasing service security and reliability. I must admit that while I am not prepared to quantify these last two factors, I am convinced that our customers expect greater servie security and reliability today than they did even ten (10) years ago. The measurement of this quality of service is difficult but it is one that requires attention and is, in fact, receiving greater attention from utility engineers today.

While our remarks to this point have been confined to our utility, we are confident that they apply equally to many other utilities. We recognize that our ability to supply our customers can be no better than Ontario Hydro's ability to supply us.

One of the points we were endeavouring to make when referring to our load growth experience, was that as retailers of electrical energy, our utility has not created either the

electrical load or the demand for energy. The need to supply electrical load and energy is determined by the customer and not the utility as has been implied by many appearing before the various hearings established recently by governments and in the newspapers.

The capital intensity of Ontario Hydro and its effect on the financial resources of the province as well as private industry, commerce and citizens, although perhaps not fully understood by us, is recognized and appreciated. Accordingly, studies into methods to reduce the rate of peak demand growth are supported. By the same token if our economic ills are to be overcome we must increase our employment and productivity. We believe that this province's economic development in the past has been largely due to the ability of Ontario Hydro to meet the needs of the farm, industrial, commercial and residential communities. Unless the electrical needs of these same sectors continue to be filled in the future, the people will be deprived of one of their most effective tools for avoiding and/or overcoming economic depression.

Conservation, which we interpret to be non-wastage of energy, should be widely promoted

by energy departments both at the National and Provincial levels. This should be directed to the use of all forms of energy, not just electricity. Particular emphasis should be given to improving efficiency at the utilization level.

The world-wide shortage of energy is also acknowledged. The cause of and the solution to this problem is complex. Undoubtedly, as important as capital is, this is probably the most important factor with which your Commission will have to deal in making its recommendations. While it may be like the chicken and egg question - that you must carry out your investigation in the absence of any publicly known National or Provincial energy policy is regrettable to say the least.

While we would support the expenditure of reasonable sums on research and development of new generation technologies employing such sources as solar, geo-thermal, wind, et cetera, we do not see these as being a practical alternative to the present sources until after the turn of the century. Accordingly, while readily admitting we are not experts in the field, we foresee no practicable alternative to the continued expansion of nuclear generators utilizing uranium

which is indigenous to our province. The size of stations to be constructed would be determined, we expect, after careful economic study.

We fully appreciate that the people of this province and society in general have entered a very difficult period and are facing problems that will indeed affect our life-style in the future. It may well be that the solutions to many of our problems will require a distinct shift in our policies. Indeed, the formation of your Commission encourages us to believe that the Government of Ontario will not act in future in a purely expedient manner as regards the Electric Power Industry in Ontario, but only after careful and serious consideration of both the short-term and long-term results of its actions. We would be less than honest if we did not note here that we have had some concerns in this regard in recent years. It is our experience that customers will react as responsible citizens are expected to react when the problem is placed honestly and forthrightly before them. We, therefore, respectfully suggest that when new policy options are being considered and public opinion is being sought, that their possible consequences and results, both short and long term, be carefully and fully explained.

Since the establishment of Task Force Hydro in 1971 and various subsequent enquiries and/or review boards, Hydro in Ontario has been under almost continuous public review. Without disputing the need for, nor the right of government to periodically study the purpose and operation of the various boards or Commissions, we would note that such protracted investigations to which Ontario Hydro has been and still is being subjected, run the very serious risk of causing frustration and loss of morale in a staff and organization which enjoys an enviable reputation throughout the world.

The trend to public hearings, at which the opinions of the citizenry of proposed projects are sought, is apparent. While their purpose is appreciated, we are concerned with their cost (which in total is unknown) as well as the resulting delays in the commissioning of the projects and their attendant costs.

As a possible alternative to this developing procedure of public hearings, we would respectfully suggest that a means of greater use be developed of the existing system which has served this province so well and was established in Ontario in 1906. Each municipal electric utility has at least a three member Committee, most of whom have

been elected by the citizens of the municipality to be responsible for their electric supply. By utilizing these Commissioners to a greater extent, responsible government could be advanced, the projects studied and pursued at minimal cost and minimum delay.

We readily acknowledge the lack of specifics and the generalizations of this submission. However, we did wish to touch on many topics.

We sincerely appreciate the opportunity of presenting this brief. If we can be of any assistance by expanding on any point we would be pleased to do so.

THE CHAIRMAN: Thank you very much, Mr. Britton. Going back to page 2, your reference to outages and your concern about availability and dependability of supply, are these outages coming largely from Hydro's input to you or within your own system?

MR. BRITTON: Mr. Chairman, I am not just referring to outages alone. I am referring to the quality of the service itself and I'm thinking particularly here of industry. In the quality of course we have a responsibility there as well as Ontario Hydro but we are noticing as industry comes

in they are more and more sensitive to fluctuations in voltage, even almost instantaneous interruptions, that is, with the automatic operations that would be backing the system. Their supply is such that the least gentle deviation almost trips out something and this seems to be increasing. As I said, I am not prepared to quantify it exactly.

THE CHAIRMAN: That is not the first time that has come up.

DR. STEVENSON: Yes. Just on that, Mr. Britton, what evidence do you have where you view that customers are requiring higher levels of system reliability and security?

MR. BRITTON: I am basing this on comments that we seem to be receiving more and more as new industry and sophisticated industry come in but I believe that also applies to the residential consumer as well. The residential consumer has come to expect a high standard of service and the day of going out to replace the transformer and interrupting the service for half an hour or an hour is not as readily accepted as it was a few years ago.

DR. ROSEHART: How many major outages would you have in a year in your area of more than

ten minutes duration?

MR. BRITTON: You are talking about unplanned outages?

DR. ROSEHART: Unplanned outages.

MR. BRITTON: That is a hard question to answer because if you are talking about one customer alone, there is probably a lot --

DR. ROSEHART: Multiple.

MR. BRITTON: But if you are talking about system-wise , ones that would affect the whole city or half of the city, I would think, of 10-minute duration, we probably would not average more than a couple.

THE CHAIRMAN: I think up in Kenora there was a reference to 56 outages in one year.

DR. ROSEHART: I think that is partly due to the tie-in with Manitoba.

MR. McCAGUE: Mr. Britton, you have spoke of the difficulty of forecasting and you state that the load growth has been around 6% with variations of -1.4 to +13.7 and go on to say that you expect a higher annual growth in your district to occur next year. What are you estimating the growth will be increased next year?

MR. BRITTON: That is, as I say, difficult. We learned just, for example, within the

past ten days of a customer that is coming on and his additional load will be approximately 700 kilowatts. He will be on next year. Our peak load is just over 52,000 so 700 begins to become a percentage. This was in addition to others. I would think if you rounded it out in percentages next year you would end up in the neighbourhood of 15% to 16%.

MME.PLOURDE-GAGNON: You mentioned the various enquiries and review boards that can cause frustration and loss of morale. Do you think in the public these inquiries create an insecure feeling or less credibility vis-a-vis Ontario Hydro, because there are too many enquiries?

MR. BRITTON: I'm not disputing the right at all or the need for it. By the same token I think we must bear in mind we are all aware that these public inquiries have been going on in depth for some time with respect to Ontario Hydro and it seems to me, as an observer, that when you take senior management who are in the field of making the decisions that must be made in an organization the size of Ontario Hydro away from that decision-making process for the extent of time that has been done, it can't help but have a feeling that ultimately must penetrate down through the

organization; and I'm concerned really that this will, of not already, show up in frustration and the loss of morale. I really am, and that will be costly if that takes place, if it has not already.

DR. STEVENSON: Have you ever heard the reaction of some middle management of Ontario Hydro to the Task Force Hydro experience, Mr. Britton? They gave them an opportunity to talk about their own aspirations and objectives and changes that they would make in Hydro if they were top management. It worked through a system of Task Forces with an outsider and two or three Hydro employees working in team, middle managers of Hydro, not the top decision-makers, and some observers have said it provided an opportunity for these middle managers to get their views publicized in a way they never would have been able to had they been required as an organization would normally require them to observe the channels. So in reference perhaps to the Task Force Hydro experiences that is at least another side to the question of frustration and loss of morale. Whether this is truer now in this round of Energy Board and Select Committee of the Legislature and this Royal Commission, that may be another question.

MR. BRITTON: My emphasis here is on

the protracted length of time, just one following on after the other.

DR. STEVENSON: May I ask you a question about the reference you make to the desirability of greater use of the elected Commissioners, the 350-odd municipal utilities. Now of course these Commissioners are organized into the Ontario Municipal Electrical Association and the OMEA speaks on their behalf in Toronto at hearings of the Energy Board. Their representatives are on the Hydro Board and they have given submissions to us and expect will give in the future additional formal briefs, but you are implying here something more, and I wonder perhaps if you could suggest in what additional ways the government can use expertise and the views of the Commissioners?

MR. BRITTON: I am not absolutely certain but our Commission certainly feels and recognizes that they had been elected to represent the electrical customers in the community and the municipal utilities certainly represents the majority of the electrical customers. As I see it, as we go down the pike and we come into the re-structuring of utilities, there is going to be fewer electrical utilities but it seems to me that here is a vehicle that could be tapped to a far

greater extent than it has been to obtain the views of its customers, the citizenry, with respect to the supply of electricity, than it has in the past.

I fully acknowledge and respect the function of the OMEA. I think they have done a very good job but I am suggesting that somehow this could be better because here is a group of people who are ultimately accountable to the citizens for the functioning of the electric utility industry in Ontario and there is no other body that I know of that is as directly accountable to the people.

DR. STEVENSON: Can you tell me, Mr. Britton, as to whether there was a discussion between you and your Chairman as to whom should represent Belleville today, the Belleville Utility Commission?

MR. BRITTON: Mr.Chairman, I suggested that we should be represented here. I worked on the preparation of the brief. It was discussed fully in Commission and it was agreed that I should make the presentation.

DR. STEVENSON: In 30-odd meetings, perhaps closer to 40 now, it has been interesting to me to observe that I don't think we have heard from more than one or two Commissioners. I'm not saying this is good or bad but their presence has not been

felt personally in our meetings. Many General Managers, but very few Commissioners, and I wondered why.

Perhaps there is nothing to worry about or be concerned about. Perhaps they are letting their General Managers speak for them, but I just wondered. Do you have any views on that?

MR. BRITTON: I would suspect in this round of hearings they are permitting the staff to represent them. I suspect also they are anticipating that their formal voice as a group will be heard through the OMEA in your subsequent hearings.

DR. STEVENSON: I see. Thank you, Mr. Britton.

THE CHAIRMAN: Thank you very much, Mr. Britton, for a thoughtful presentation.

Is there a Mr. Martin Edwards here from RMC and the Cataraqui Conservation Authority?

2/ MR. EDWARDS: I am presenting this as a personal brief as I have discussed the contents with neither the Royal Military College or the Cataraqui Conservation Authority. I propose to act as ears for the Conservation Authority who may later wish to submit a brief on the effects of power generation on water quality at your subsequent round

of hearings.

My point today is I wish to propose an alternative to the general method now used by Ontario Hydro in planning its growth and in estimating the power needs of Ontario in the near and long term.

The present method projects the continuation of the overall provincial load growth rate at its historic average compound rate of about 7%. The Report (556SP) on Long Range Planning of the Electric Power System considers three variations: 4%, 7% and 10% growth from 1977 onward.

There are two important factors omitted in such an approach.

1. There are fundamental limits to growth.

2. The power needs per capita should also show an upper limit. The historic load growth rate of 7% compounded has contained two distinct components, a population growing at about 2.5% compounded; and a per capita power consumption, growing at about 4.5% compounded. The energy use per capita should no longer be projected to increase without limit at its historic rates.

The present planning technique leads to a perpetual round of doubling of power generation

and distribution facilities without limit. All that is in question is the rate of perpetual doubling. There should instead be a long range planning system which recognizes explicitly the limits to the growth of the system, and the limits to the needs of individuals, and which is sustainable by our society in the long term. Such an alternate planning method would not produce very different forecasts for the next 10 years, but would be enormously different, in the long term.

The total power needs for a given population should be expressed as (power needs per capita) times (population size). Then we could separately take account of the power needs per capita, which might well be expected to reach a plateau near present levels; and the number of people in the Province, which might also be expected to level off in the not-too-distant future. Clearly, if the population growth of Ontario slows down, the absolute additional generating capacity required per year will also decline. A stable population would only need a replacement of worn out facilities, with no further addition of new central generating facilities.

My recommended planning policy is that I urge that the projected power needs per capita

be set by the Government as an explicit goal. I personally recommend a target of near 2 kW_e per person, near to our present capability. The best forecast of the population of Ontario when multiplied by this per capita power would then give the estimated power need for any future date.

As a comment, and you specifically asked for any comments on how this Commission might conduct its hearings, I would ask you if possible I would like the Commission to ask both Ontario Hydro itself, and the many individuals and groups appearing before you, to express their views on the future per capita needs for electricity generation in Ontario.

I realize that many groups and individuals would have difficulty producing a number but might be able to give you a feeling as to whether they think their personal lifestyle requires an increase in the power that they are using or if they could get along with the same amount or less. I would very much urge the Commission to sample views on that particular point.

Thank you.

DR. PORTER: This of course will be done to some extent in the attitude surveys which the Commission has in progress at this time,

attitude surveys which will be carried out during the life of the Commissions, so we will perhaps see trends in public attitudes and public opinion relating to such a question as you have just raised.

One point, and you talk about the total power needs for given population, this presumably brings in natural gas, oil, wood, as well as electrical because one might imagine if there are to be pressures on natural gas, for instance,and oil in the future, with rapid escalation of cost, there may be a move towards the electrical side, so I'm not too sure in your submission when you talk about the total power needs. I suspect you imply total electric power needs?

MR. EDWARDS: That is correct. I say 2 kW_e. In 1974, the average power sold to all the citizens of Ontario is about 1.2 kW_e. I envisage some such internal shift towards more electric power. It would not make a very big difference in the near term, but my point really is that should be explicitly addressed in the planning procedure. It is not at the moment and one should break out these two factors explicitly in the planning.

DR. PORTER: This of course will be a very key issue when the main inquiry gets underway,

when we have assembled all the relevant information, the relevant methodologies and so on. That will be the second phase of course of the Commission's work beginning perhaps early in March.

Then, having acquired this information from Ontario Hydro and from other sources, then the Commission will be in a position to conduct the main inquiry during which I am sure this issue you have raised will be of very essential concern.

MR. EDWARDS: My ideal solution, Mr. Commissioner, if I may, would be to have you recommend a number as a target and recommend to the government that it formally adopt this as a goal, or some number, and that would then make Hydro's job very much easier in complying with an explicit request.

MR. McCAGUE: Mr. Edwards, when you speak of the government formally adopting, is this a voluntary proposal from government or are you speaking of something by way of legislation?

MR. EDWARDS: I am suggesting something; so far as I know the only legislation with a goal is particularly vague such as the Bill of Rights; so I would see this as more of a guideline that could be directed this way towards Ontario Hydro saying you should provide such and such.

MR. McCAGUE: Yes.

THE CHAIRMAN: Playing the devil's advocate for a moment here I do know in Northwestern Ontario the mine I was associated with has an export licence to export ore from processing off-shore. I know it is the government's desire to have a smelter somewhere in that area which of course brings up the use of more electrical power. The chlora-alkali industry produces obviously caustic and chlorine. There are many, many chemicals on the chlorine side of this process. We tend to be still, you know, hewers of wood and carriers of water and I would think the Government is going to have a problem here. We are exporting, for instance, a good amount of pulp which could be processed into paper, using more energy again, and sold across the border. So there is a balance here. I find it hard to believe that kilowatts per capita is going to remain stagnant from that point of view alone.

MR. EDWARDS: I think most of us find it hard to realize that we can't rely on the availability of cheap energy from now on.

THE CHAIRMAN: I think it is hard to realize where the money is going to come from to provide all this power too.

MR. EDWARDS: That is right.

THE CHAIRMAN: That is part of the problem.

MR. EDWARDS: I submit that the world has changed and it is a question of how do we realize and how do we react to it, and if one looks at the processing of ore, there are kinds of industrial processes that use enormous amounts of electricity and others that don't, for instance, we would not want to have bauxite refining done electrically in Ontario I would say now.

THE CHAIRMAN: No, but there are base metals found in Ontario that could be refined here and are, actually. There is a smelter going up at Timmins.

MR. EDWARDS: I agree with you there are real difficulties.

THE CHAIRMAN: These are some of the problems.

MR. EDWARDS: They must be faced.

MME.PLOURDE-GAGNON: You mentioned if the population decreased it will require less generating capacity but if that same population utilized electrically more electrical energy, more electrical appliances and if we have more industries, Do you think it will change something in the generating capacity if the people want more in

utilization of energy, if there is a population slowdown?

MR. EDWARDS: I think the emphasis must be on using less energy per final task performed. In other words, one can have a freezer that will store meat and it automatically defrosts itself and uses a lot more power than one that is done manually. You can get the same task performed by our tools, with using less energy. I really think this has got to be the way of the future and, sure people want more. It simply is not possible in the finite world, is my point, and we ought to face that and see what are the boundaries we are coming up against. I expect the conservation part of energy to come in on holding the energy use per capita or even reducing it. I think it gets on to the question of what is the quality of life you can get per kilowatt and I claim that can go up a lot in such simple things as TV sets and radios which now use much less power than they used to for the same amount of entertainment value. Entertainment value per watt may or may not have gone up but -

MME.PLOURDE-GAGON: You think we can use more, but more expensive?

MR. EDWARDS: I suspect we will use less but more efficiently.

DR. STEVENSON: You know these per capita targets seem to be popular with the Europeans. We have had our attention drawn to the goals that Denmark has set for itself of, if I'm not mistaken, zero per capita growth within ten years, this kind of thing. We have been too busy to try to collect any of this research but we have been advised it exists and other countries are doing what you are proposing.

I am curious because I'm a little skeptical, given that industry and business are responsible for 75% of our electrical consumption, no matter how much we conserve in our residential lives we can directly affect only the remaining 25% but this per capita target to be practical means of course, that the same discipline has to be exercised by,again, ourselves insofar as we are businessmen and industrialists but it is a little further removed from our daily lives.

As I say, apparently the practical Scandinavians accepted it as a workable objective and I would for one, like to know a lot more about enforcement and how they propose to go from here to there.

MR. EDWARDS: I believe this is very close to what the French call indicative planning. I

would suggest to you that there will be no aluminum bauxite refineries built in Ontario, if such a thing is adopted. There will be kinds of industrial activity that we will wish to have. I think for Ontario it would mean a secondary industry and tertiary industry would be emphasized as a matter of provincial policy and I see it is entirely possible, it is a clear guideline to industry to wish to come in.

My point in talking in home appliances is that we all can see that in our own lives and it has quite a symbolic meaning above and beyond the independent one. We may also wish to do all sorts of things such as, perhaps, recycling aluminum cans, which would cost us less than refining ore. Admittedly, right now in Canada we don't manufacture them the right way. We have not been able to persuade Alcan to do that and ours are unrecyclable.

Surely we will come to look at how much energy is needed to do the same task and you are quite right, it has to cut across industrial as well as residential and other commercial uses.

DR. STEVENSON: You know, if you look at what the Europeans have done in terms of use of water per ton of steel, per unit of production and

manufacturing, process water has become scarce in Europe to such a degree that I understand that the steel mills in Germany in the Ruhr Valley uses something like 1-100ths of the amount of process water per ton of steel as they do in Chicago.

It is just an example of how if the economics are right ingenuity emerges, industrial processes change. You could do the same with energy, I suspect, if the indicative planning (is that what you call it) pointed in that direction.

Thank you very much, Professor Edwards.

THE CHAIRMAN: Thank you, Professor Edwards.

R.A. FRAY, Kingston PUC.

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MR. R. A. FRAY: Mr. Chairman, ladies and gentlemen, on behalf of the Public Utilities Commission of the City of Kingston, this Public Utilities Commission considers it a privilege to be able to make known to you, Sir, and to your fellow Royal Commissioners its concerns with respect to some of the matters which come within your terms of reference and which bear upon the future supply of electrical energy in Ontario. It applauds the approach you have taken to secure as broad and as uninhibited expressions of public interest and concern as possible and hopes that this Submission may be of some assistance to you.

Our concern is twofold. First, to what degree and within what limits will Ontario Hydro be able to supply the demand for electrical energy of its wholesale customers, the municipal electric utilities, in the period 1983 to 1993? Second, how will the certain changes to come in the availability and cost of primary energy sources, in social and environmental conditions and in the continuity, reliability and availability of electrical energy at wholesale from Ontario Hydro affect our operations in and our planning for the above period?

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This Utility is a member of the Ontario Municipal Electric Association and we are acquainted, sir, with the submission which the O.M.E.A. made to you in Toronto on 11 November, 1975. We support and endorse that submission, particularly where it bears on our first concern. However, we emphasize in what follows certain problems and points which we consider to be of special importance.

ELECTRIC POWER PLANNING AND ONTARIO HYDRO

Under this broad topic we draw to your attention several problems which we know have been put before you by others. We do so without apology because they deserve the emphasis repetition will give.

1. Reliance on uranium and thorium as primary energy sources; that is, on nuclear fission as a means of generating electrical energy.

   We recognize that the pressures to move in this direction are very great. Aside from hydraulic resources now almost completely developed and a negligible deposit of low-grade lignite near James Bay, Ontario's indigenous primary energy sources are limited to uranium and thorium.

   We admit the success of the CANDU system as exemplified by Pickering but we se see also that

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intensive use of this, or any system based on nuclear fission creates problems of a kind and magnitude which have never existed heretofore. Before the CANDU nuclear generators can be placed in the framework of planning for the years 1983 to 1993 and beyond, much work will have to be done to find satisfactory answers to the as-yet unsolved problems of handling, processing and storing spent reactor fuel and of ensuring full protection of the public against the radioactivity which results from nuclear fission.

2. Who should pay for the cost of research on new fuels - the electric customers through their rates or the population at large through taxes? These two groups are not one and the same. For instance, how much should electric customers in Ontario pay for the answers to the problems mentioned above when these will surely benefit future users of nuclear energy in other parts of the nation? Other examples such as development of practical solar energy systems or of domestic-sized fuel cells come readily to mind.

3. How can the heat now wasted by thermal generating plants be used productively?

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Even though not much can be done to make use of the large amounts of low-grade heat energy in the cooling water of existing thermal generating stations, it should be possible to plan for and locate new undustries and new communities so that this waste heat may be used for space heating and other productive purposes. Energy cannot be re-cycled. We cannot afford to waste it.

4. Is it enough to plan only for the supply of electrical energy.

Out of our small but significant experience in supplying two forms of energy - natural gas and electricity - we can see the need for an integrated energy policy embracing both electrical energy and all of the primary energy sources: coal, oil, natural gas, uranium and thorium, administered by a provincial planning agency. Such an agency would have to be given broad powers to allocate and "ration" energy amongst ultimate customers. The supply agency - Ontario Hydro, for example, cannot be asked to ration the form of energy it supplies. That, surely, we believe, is a function of Government.

5. Has the time come to require that all those people who enter the public participation

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process do so responsibly and with full recognition of the consequences of unnecessary delays, frivolous intervention and irresponsible and selfish obstruction.

We are greatly concerned for fear that the obvious advantages and benefits of open planning will be completely nullified by the delays and increases in costs which have resulted from protracted public hearings and public participation. What is the benefit when a new, large generating unit is ready to "come on line" but there is no transmission line over which the power it can provide can be delivered to the customers who need it? The public planning process has not yet agreed on the route and the rights-of-way for the line. The open planning process has lengthened planning and construction lead-time by as much as three years. Is it not time to reduce this component of delay and to remember that the ship does not sail until the captain gives the order.

ELECTRIC POWER PLANNING AND THE LOCAL UTILITY

1. The municipal electric utilities in Ontario have always been responsible for distributing electrical power and energy to the retail, or ultimate customers in their respective

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municipalities. As distributors we are directly and immediately concerned with the level of electrical service and its continuity and reliability. Ontario Hydro has always based its generation development program on a forecast of future loads which is the forecaster's best judgment after consideration of the historical trends in load growth and consultation with Hydro's wholesale customers, the municipal utilities, with Hydro's large industrial customers and with the Government of Ontario. That forecast should remain Ontario Hydro's responsibility. Government may decide to modify the program to fit financial, economic or planning restraints. Such modification is the prerogative of government to exercise as it may see fit. However, the continuity and reliability of service which can be provided within the limits set by the program or by the Government plan and load projection by which it is modified should be the highest that Ontario Hydro's best technical capacity and expertise can determine and maintain. How high the level of service can be must be Ontario Hydro's responsibility to determine.

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2. What will be the impact in the future on our operations of the following:

a) The increasing cost and limited, or finite, supply of energy from the traditional primary sources, coal, oil and natural gas.

b) The shift at the retail level from other forms of energy to electricity in transportation, space heating and manufacturing processes.

c) The possibility of developing practical and effective solar heating devices for homes and the use of fuel cells as home sources of electrical energy. This latter possibility implies a "decentralization" and "dispersion" of the sources of electrical energy which must be co-ordinated with the need to maintain large, efficient centres of generation and effective systems for transmission and distribution.

3. Has the time come for us to change our traditional methods of pricing electricity? Can we find a way to price electricity which will make "the customer who uses more pay more" but yet will not place an undue and regressive cost burden on those customers least able to bear it? If we

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can, our customers may respond by conserving electrical energy, reducing their demand and reducing waste of energy.

Respectfully submitted, Mr. Chairman.

THE CHAIRMAN: Thank you very much, Mr. Fray.

DR. PORTER: This is an extremely comprehensive submission, Mr. Fray, that spans most of the areas of concern which we have been hearing about during the past few weeks.

MR. FRAY: Mr. Chairman, may I say that as Chairman of the Public Utilities, I take no credit for this brief. It was prepared by our staff and one doesn't have a dog and do the barking themselves.

DR. PORTER: Congratulations to your staff, Mr. Fray, but presumably the Chairman of the Commission directed the operation anyhow. Somebody, I suppose, has to take the credit.

MR. FRAY: That is correct, Mr. Chairman.

DR. PORTER: I suppose that in your dual role, the utility being concerned with both natural gas and electrical energy that this must put you in a unique position. We have not up until now I don't think heard from another commission with this

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dual role.

DR. STEVENSON: We certainly have never heard of one that has four, including a bus system.

MR. FRAY: I believe, Mr. Chairman, we are the only utility at the present time that operate their own gas system.

DR. PORTER: So this of course means I suppose that you within the Commission sort of consider trade-offs and speculating on the development pricing policies as natural gas becomes perhaps more scarce, as we know, so that you do have perhaps a degree of flexibility.

MR. FRAY: That is right.

DR. PORTER: That is very desirable in this energy field.

MR. FRAY: Mr. Chairman, one almost has to be a Solomon, because we put on an extensive program to sell customers gas and, as you know, just a month ago the Government allowed gas increases of 49% to our utility so now we are wondering if we did right. As a matter of fact, last evening we decided to go out of the gas heater business because of the cost and the upkeep of running the heaters.

THE CHAIRMAN: In spite of the fact that from an energy conservation point of view very

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basically that is a very efficient means of using a primary resource.

MR. FRAY: I think we did well, sir, to hang onto the gas. Everybody sold their franchises but we held on and in this way we could control.

DR. PORTER: Thank you very much. I am sure my colleagues probably have some questions.

MR. FRAY: If there are any technical questions which the members of the Commission would like to ask, I have our manager here who would be most happy to answer them for you.

MR. McCAGUE: Mr. Fray, what has the shift been to electricity? Can you tell us?

MR. FRAY: By shift you mean what?

MR. McCAGUE: Transfer it from other forms of energy to electricity, from gas and oil.

MR. FRAY: No, we have had a pretty steady --

MR. McCAGUE: Not much conversion?

MR. FRAY: Yes, our conversion burners, we only have about 57 conversion burners and we are turning those over to the people as of the 1st of January because of the cost of maintaining and looking after them, but they were on a rental basis and now we are turning both the gas heaters and the water heaters, electric heaters and conversion burners, that is

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furnace type conversion burners, we are now turning those over to the people to maintain.

We still, as a Commission, will take care of the gas heaters and the gas conversion burners, in other words, our Commission feel as a safety point of view we should go and light them and there would be no charge, but we have had quite good success with our gas department and as I said before we were lucky that we kept it. We feel this, because it gives us a chance to sell electricity and gas, two good forms of energy.

DR. ROSEHART: Just a philosophical question. As has been mentioned you have some control over electrical supply, gas and water and buses in Kingston.

MR. FRAY: That is correct.

DR. ROSEHART: What do you see Kingston being like in the year 2000, that is the first part; and the second part, how much do you think the public utility commissions, municipal governments and provincial governments can manipulate the growth in a city the size of Kingston over, say, a 20 or 30 year period?

MR. FRAY: First of all, answering your first question, what I think it would be like in 2000, the way it is going now I don't know hardly what

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to tell you. Certainly I won't be around, at my age. Whether I would want to be around, I don't know, but as far as operating the four utilities are concerned, sometimes we wish we did not have the transportation problems to worry about.

The City of Kingston is growing. As a former mayor of the City of Kingston, I sometimes wonder why people try to make such a large city. What are the benefits of a large city? I don't know. I think it is very nice the size of the City of Kingston if we could remain where we are now or perhaps a little larger where if one wants to walk to work they can walk to work or if they want to ride the bus or take the car. It may become necessary later on to not have transportation only by bus into our city.

DR. STEVENSON: I am intrigued by your last comment, Mr. Fray, on changing the traditional methods of pricing electricity. It is not something that we have heard from municipal utilities.

MR. FRAY: I am surprised that you have not heard that before.

DR. STEVENSON: We have heard it, but not from utilities, I don't think. We have heard it mainly I think from academics and people like me,

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economists, are always talking about it, but your ability to establish the price levels for gas and electricity which as you point out is unique ought to give you some insights it seems to me into this question of what will happen if you change the relative prices between these two alternative forms of energy.

MR. FRAY: I take full credit for that particular item in our brief, Mr. Chairman. It seems to me what we are doing today is telling people to use more electricity.

Now, we are fortunate on our public utilities by having a member of the Board of Directors of Ontario Hydro and I put this question to the Commissioner. He said, well, it is an interesting point, perhaps we should include something like this in our brief; and perhaps you are the gentleman who will have to try to find some way. Are we doing it right? We are only asking questions here. It seems to me what we are doing is trying to save energy and at the same time we are trying to tell people to use more of it and if you use $1,000 of electricity at a given figure and say, this is how much it will cost you, but if you use half as much more again it will cost you this much less and so somebody goes up to $1,200 and say, well, if we go a little more we will

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get it a lot cheaper so what we are really doing is tell people, use more of it, it will cost you less and at the same time we are trying to conserve energy, and must conserve it.

DR. STEVENSON: We had a little discussion last night about the declining block rates for utility services and the question was, isn't this promotional. I was pointing out it sure looks promotional, as you say. In fact, it is the utility's traditional way to try to track costs as they occur to the utility but that it would be equally possible to charge a fixed rate per month and then a flat rate per kilowatthour.

MR. FRAY: Yes.

DR. STEVENSON: Now, that would look less promotional but would your customers accept a $15 a month charge, let's say, for no service. In other words, would they accept a major minimum bill?

MR. FRAY: Well, Mr. Chairman, we are a monopoly and I don't know what the customer could do about it.

DR. STEVENSON: Touché - perhaps not elect you the next time.

MR. FRAY: That is right.

THE CHAIRMAN: Thank you very much, Mr. Fray.

2.15

Before we break for coffee we have two people here this afternoon who would very much like to present their submissions this afternoon but they can only do so if somebody who is scheduled to present their papers this afternoon would be willing to come here tonight.

Is there anyone here who is scheduled to give their submission this afternoon who would be coming here tonight anyway and could possibly give it tonight. We have one here, Mr. Scott Foster.

Another? Well, what we will do, maybe we should advance Mr. Kaiser to right after the coffee break and then we will follow the break in here and put Mrs. Mooney in in Mr. Foster's place.

So we will break for coffee now and at 3:30 we will reassemble.

--- Brief recess

--- On resuming

THE CHAIRMAN: Before we start, ladies and gentlemen, in your kit there is a form to be filled out if you would to be registered with our library service and make sure you get all the information we will be sending out in due course.

So before you leave would you please fill out that form and leave it at the back table.

We will now hear from Mr. Eric Kaiser.

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MR. ERIC KAISER: Thank you very much, gentlemen. The Lennox and Addington Federation of Agriculture certainly appreciates the opportunity to present a brief to the Commission and we hope that you will be effective in your role. We have endeavoured to keep the brief very short to permit time for questions afterwards. I am unfortunately alone because some of the other members who assisted in the preparation of the brief were unable to attend. In fact, one of them is in court with Ontario Hydro today.

At this preliminary hearing we would wish to avoid a great deal of detail on specific problems and possible solutions. Rather we would like to outline our concerns in two broad areas, Ontario Hydro's policies in land acquisition and secondly the "land use" impact of locating Hydro facilities in Southern Ontario.

Many members of the Lennox and Addington Federation of Agriculture have had first hand exposure to Ontario Hydro's land acquisition policies during the last few years in Hydro's acquiring of the site of the Lennox Generating Station and the Power Corridors leading from it.

Hydro's land acquisition experts have used every trick in the book. Hydro's "Offers to Sell"

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which should not be confused with "Offers to Purchase" have been delivered at every hour of the day, every day of the week, including Sunday's and holidays with and without bottles of L.C.B.O.'s finest, with and without experts, and I could go on and on. Wives have been hounded into signing during husbands' absences making husbands' signatures questionably a "matter of formality". Slow to sign owners have been hounded and hounded at all hours of the day and night and pressured into signing. A great deal of effort has been expended by the Ontario Federation of Agriculture in improving this situation and the public relations man of Ontario Hydro will tell you it doesn't happen any more. It still does.

A second problem in this regard is Hydro's use of trespassing. Whether you have settled with Hydro or not Hydro workers ignore your fence lines and property and move heavy equipment across your property from neighbours who have settled without even the courtesy of asking permission. As I mentioned already there is a case before the courts today of a farmer who has received not one cent from Hydro, who has signed nothing with Hydro who now has rows of Hydro towers across his property, has had his drainage systems destroyed by Hydro and suffered heavy crop losses. Hydro's right to expropriate is

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being used as a licence to cheat.

A third problem in this regard is Hydro's failure to compensate agricultural owners fairly. A number of factors in farm valuation are ignored by Hydro. Some of these are:

1. Existing land use - whether it is cleared land, wood lot, swamps, or even land not suitable for agriculture.
2. Land improvements - primarily tile drainage and the disruption of entire drainage systems but also fertility levels and fences.
3. The compromising of an entire farming operation - by removing large acreages from a farm the operation may return an even more inadequate income and buildings and the remaining farm greatly lowered in value because of this.
4. The failure to compensate large owners - farmers - on the same basis as small owners - rural non-farm residents. Cases could be documented where ten acre land owners received in excess of $1,000.00 per acre for swamp land where farmers of prime agriculture land were offered about $400.00 per acre.

Our concerns in the land use area cover both the broader moralistic aspects and also the more narrow current misuse and abuse. It has become very

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obvious that impact on Hydro plans is both a people numbers game and also a "who you know" game. The "Power for Prince Edward" route for example, a search by Hydro was forced by, and the final route chosen favoured, the "Save the Bay Committee", a group of primarily non-farm, part time and full time influential rural residents. In all land use policies followed by governments in Ontario - including those followed by Hydro - it has been obvious that feeding birds is more important than feeding people and also that influential rural residents - primarily non-farmers - have more to say than agriculture.

From a long range point of view locating large Hydro facilities in Southern Ontario's relatively small area of agriculturally favourable land is even more short sighted than, for example, locating Toronto in that same area. Not only are the resulting pollutants harmful to agricultural production, and in fact disastrous for some, but these locations, because they "invite" industry and people to co-locate they tend to perpetuate, on a long term basis, the developer's and provincial government's co-sponsored motto of "Pave Southern Ontario or Bust". While that motto may eventually make it feasible to make money farming land in Ontario, as a long term goal it is likely to be socially and financially

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disastrous.

Some of the more immediate land use aspects are as follows:

1. The failure to locate towers in line thereby rendering unusable large areas of land.
2. The failure to locate towers on existing fence lines thereby again rendering unusable large acres of land. The Eastern Corridor from Lennox East to Hinchinbrooke covers approximately 100 acres per mile for a total of 4,000 to 5,000 acres. Policies such as the two above make unworkable much of this land.
3. The failure to consider agricultural use of land during construction and maintenance. The Highway 2 to Hinchinbrooke section of the Eastern Corridor from Lennox was constructed during the winter, this past winter, another line, and it passed through very little farm land. The Lennox to Highway 2 section was constructed during the spring and summer when the deep land was the most impassible to heavy equipment and when the most damage - because of the soft ground - was done to drainage systems and crops.
4. The decision of whether to use easement or ownership for Power Corridors has been discussed. There are disadvantages of both to the farmer.

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For a variety of reasons - disruption of crops, drainage, thoughtless destruction of fences et cetera - a farmer is much better off having never seen a Power Corridor. However it is likely that the level of compensation should be greater for easements than for ownership because the farmer still has to pay the taxes on the land. Lease-backs in the case of ownership are unsatisfactory for all the above reasons and also because Hydro only gives one year leases.

Gentlemen, I have made some preliminary recommendations. I will read them now. They are not intended as final recommendations but rather as recommendations to promote further thought.

1. Hydro's right to expropriate should be removed. Bell Telephone and the pipeline companies manage very well without it and they run cables and lines all over the place.

2. Hydro's land acquisition and easement policies must be a matter of record and they must be required to inform all prospective sellers of all details.

3. Hydro's use of "Offer to Sell" must be replaced by an "Offer to Purchase", a more conventional real estate transaction form.

4. Hydro's construction and maintenance policies

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for power lines must be designed to minimize impact on crops and land.

5. No further power systems should be constructed in the Southern Ontario's agriculturally favoured areas, i.e., approximately south of a line from Ottawa-Brockville through Peterborough and Barrie and westerly to Lake Huron.

Gentlemen, I hope I have not presented Hydro's picture as being too black. It is I think recognized that agriculture is a major user of hydro and in fact a rapidly increasing user of hydro. However, that does not negate any of the points I think that have been made in the brief.

THE CHAIRMAN: One question, Mr. Kaiser. You say only gives a one year lease. Is that renewable and if so at whose option? It isn't renewed every year, is it?

MR. KAISER: Again, those who have it, and I personally don't know any who have it, I had hoped some of the other members would be able to be here today, however, they were not. I don't have first-hand knowledge on that. I am given to understand they only give one year leases, that they are normally renewable. However, even for a dollar a year it is not really a good situation. It is very difficult to have cattle, for example, to have livestock,

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to have buildings, to have machinery that are dependent on a certain size land base when you are talking about corridors the size of the Eastern Corridor going north of Bath. Through one particular farm I know it takes out approximately 72 to 80 acres. Another 300 acre farm, it takes about 60 acres out of it. It is quite a sizeable chunk to attempt to operate a livestock or a crop basis on that unsure a situation operating from one year to the next.

MR. McCAGUE: Mr. Kaiser, you have certainly made a very direct and clear presentation and maybe you have spoken up more bluntly and critically than we have heard in many presentations from farmers but that is what we are here for. You tell us your problems and we are listening. You of course will be planning to present a formal brief at the time of the hearings later.

MR. KAISER: We will and hopefully all members involved in the situation will be able to be present at that time.

MR. McCAGUE: There is a steering committee organized and the membership I believe is, among others, the Farmers' Union, the Federation of Agriculture, the Christian Farmers. Will you be joining in that presentation?

MR. KAISER: As a member of the

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Federation one of the co-authors of this particular brief and who will be a co-author of a future brief is a member of the Executive of the Ontario Federation of Agriculture. So as a County Federation we are indirectly and directly involved in that we have a director at the provincial level and we are directly involved in everything the Federation does and are informed of it.

MR. McCAGUE: Are you familiar with a funding program that this Royal Commission has been asked to implement in connection with the electric power planning program, a funding program to assist financially individuals or interest groups?

MR. KAISER: I only received a copy of the large blue folder you have here this morning and as a result am familiar with it only since then.

MR. McCAGUE: This is the first time that this has been entered into in Ontario, a matter of providing funds to assist groups or individuals to present issues that they believe should come to the attention of the Commission when we get into our regular hearings.

The funding budget has not been established. We believe it is not likely to cover the full cost but we are sure it is going to be helpful by way of research or presentation or

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preparation of briefs.

Now, you have raised a large number of points here that certainly concern this Commission and concern the public. You have made reference to the lines coming through Southwestern Ontario through a lot of our Class 1 and Class 2 land and at a number of hearings we have had urban as well as rural people join in the protest against the disappearance of Class 1 and Class 2 farm land and I think that farm groups are doing a pretty good job in alerting the public to the seriousness of what is taking place here through lost production of food.

The purpose of the preliminary meetings is to get messages such as you have given us today, to alert you to the funding program, to make possible joint presentations can be arranged so as to make the best use of the funding program and all of these matters are issues that you can bring before us in a formal way. This matter of 100 acres being taken out per mile?

MR. KAISER: The tower corridor is in such a way, this is the corridor from Lennox north to Bath, west of Kingston and to Hinchinbrooke somewhere in the area I believe 40 to 50 miles long, the width is such that it takes out very close to 99 acres per mile.

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MR. McCAGUE: Would that be tillable land?

MR. KAISER: It depends where it goes.

MR. McCAGUE: Some of it is?

MR. KAISER: Very definitely. The section, for example, which goes north of Bath crosses only tillable land.

MR. McCAGUE: There has been some research done by the University - well, the Department of Agriculture, and we expect a report from them dealing with the point you raised of land lost by transmission lines. This loss of acreage is substantially greater than what we understood is reported in that report.

MR. KAISER: I am not totally familiar with that brief. However, one of our members has seen that report from the University at Guelph whereby it indicates relative locations of towers, the failure to line up towers on the amount of land lost, the amount of land lost by placing the tower in the centre of a field near the fence line or on the fence line. There are a variety of things involved in the report that would be very useful data. Except under extreme pressure, in two cases that I know of in point, Hydro has located towers on existing fence lines only because the owner was in a position to wheel and deal.

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In one case, he locked the gate and they had a great big chunk of machinery in there that did not belong, in fact, was trespassing. He locked the gate and they could not get it out so they came to terms very readily, since it was the only particular machine of that type that Hydro had in the area, but that is not the kind of dealings that agriculture should have to put up with in order to provide the cities with access to the power that Ontario Hydro would like to generate.

MR. McCAGUE: There is obviously some difference of opinion in your presentation and that of a couple we have heard earlier this afternoon that participation tends to slow progress, but there has been greater participation between the farmer and Hydro in recent months or years.

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MR. KAISER: It is certinaly improved since Lennox was begun and of course since Bruce which was begun I think slightly before Lennox. The Federation of Agriculture and farmers generally are becoming more familiar and have been talking with each other. For example, the Federation is an organization with some 25,000 members or 28,000 members. You get input from a lot of people and a lot of individuals who have had dealings with Hydro and you begin to find out what the tactics are. If

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you can collect that information, make available facilities to present briefs to, to talk to Hydro and in fact in the Bruce area they even collected signatures, powers of attorney, so that they could effectively block Hydro until better terms could be arrived at.

My main point is that we should not have to do that kind of thing and I would suspect in this particular area your role should be looking for things that Hydro should do to make that more reasonable.

MR. McCAGUE: You feel that there is something that should be examined with respect to the principles of land acquisition location compensation, there is a principle here that you will be dealing with no doubt formally that presently is not satisfactory.

MR. KAISER: Absolutely. Ontario Hydro, a Crown corporation, should definitely not be permitted to use the kind of tactics that were seen in acquisition in Lennox and Addington Counties.

MR. McCAGUE: We appreciate very much your being here, Mr. Kaiser and your submitting the views of the County and trust that this form of preliminary meeting gives you the opportunity of participation and further, of course, we mentioned the

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funding, another effort to get the views and input from the public, and we are sure that you will take advantage of this.

THE CHAIRMAN: Thank you very much, Mr. Kaiser.

DR. PORTER: A point of information, did you as a matter of fact receive a copy of the brief which the Ontario Federation of Agriculture presented to this Commission in Toronto about four weeks ago?

MR. KAISER: I did not receive it, no, but I was aware of it and one of the individuals who was involved in the preparation of this particular one was familiar with it, yes.

MR. McCAGUE: I might say in that brief that the Ontario Federation of Agriculture reported that 26 acres of productive land was disappearing from agriculture every hour.

MR. KAISER: Mr. McCague, I suspect from personal and economic point of view that is probably a first rate thing. My personal opinion is the faster they pave over Southern Ontario the sooner I am going to get rich. That however is a very unmoralistic point of view, I think, and is only an economic consideration. I think that is stupidity in the long run.

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THE CHAIRMAN: Thank you ever so much.

We will now hear from Margaret Phipps-Walker, The Association of Women Electors of Kingston Area.

MS. MARGARET PHIPPS-WALKER: The Association of Women Electors believes that the major problems which your Commission should investigate are those of conservation, pollution, and the future accountability of Ontario Hydro to the public. It must be obvious to us all that the days of high energy consumption without counting the cost are gone. The true hidden costs of past production are becoming known to us. Only partly are they financial.

We believe that our habits of heavy energy consumption must be broken and that we must learn to conserve, and the Government can provide leadership.

Pollution - Some aspects of pollution concern our members. The disposal of wastes is of major importance, not only from nuclear plants, but from chemical residues and from an increase in the temperature of local lakes. It is know, for instance, that marine borers in the area of Southampton, England are now greatly increased in size, and that sharks have been seen off the English coast. Both

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these phenomena are believed to be due to the rise in temperature of coastal waters near the generating stations.

Recently our newspapers have reported chemical contamination of fish by P.V.C. from the transformers which have been dumped into Lake Ontario, and which have rusted through. Radiation hazards from nuclear wastes have been well documented. We are concerned at the possibility that disposal techniques are not proven to be 100% adequate before they are used.

We wonder, also, whether the levels of health protection for workers is adequate in the nuclear power stations and in the uranium producing mines. Respiratory disease in miners and their families has been evident at Elliott Lake. The medical and social costs of mining uranium should be counted in the costs of providing nuclear power.

Conservation - Because all these things add up to a very high price to pay for continued high consumption of energy, we believe that conservation and restraint are all-important. We suggest re-education of consumer attitudes in the following fields:

1. Encouragement to use less energy. At present the cost per unit of electrical energy decreases

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with high consumption. This policy should be reversed. Every user should be entitled to a basic quantity of low-cost energy, and thereafter the price per unit should progressively increase. In addition, consumers of electricity at peak times should be charged a higher rate since peak electricity costs more to produce: e.g. the Lennox station is used for supplying power at peak periods. Another example is to design housing so that a hot water heater can be turned off during the day, and to design buildings using the maximum amount of daylight and to discourage air conditioning.

2. Training to use fewer appliances. Do we really need all the electric appliances that consume energy, not only in their use but in their manufacture? The Government might well consider a higher level of sales tax on such appliances to pay for the high energy aspects of their use and to discourage their manufacture.

3. Improvement in domestic design. Many of our appliances are unsophisticated and inefficient in design. They could well be manufactured with reduction in energy consumption as a major objective. Government could encourage this by establishing a Design Research Unit to investigate

and publicize new materials and methods; by awarding prizes for efficient design; by evaluating and publicizing the energy consumption of different models of domestic appliances.

4. Increased availability of information about the true costs of energy production, in environmental terms as well as in economic ones. The methods of informing the public need to be improved; e.g. costs for using coal for generating power, and costs for water power.

5. Government should take the initiative in stimulating research into other sources of energy, particularly coal, but also solar heat, wind power and localized pockets of natural gas. Following are other suggestions for conserving power:

a) Request Hydro and Government to examine and incorporate conservation methods that have worked satisfactorily in Europe: e.g. sotrage of hot water at low peak times for heating and hot water supplies.

b) Garbage as a source of heat. Can more of our garbage be burned to provide heat? Research figures indicate that buring paper to provide heat is more effective than recycling it. Rather than throw our garbage out, we should burn it in

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properly designed domestic or industrial incinerators. In Europe whole housing projects have been provided with garbage based central heating.

c) Recycling as a saving of energy: e.g. recycling of aluminum which requires tremendous amounts of electricity to produce from raw materials. Also recycling of bottles. We cannot afford to waste materials that require so much energy to make and then are wastefully abandoned.

d) Research into wastage through basic technical problems: e.g. how much electricity is lost in transmission? How many homes or factories could be powered if efficiency were increased.

e) The encouragement of interdisciplinary exchange of research information between all facets of government, industry and university. We believe that knowledge is often available, but action to harness it effectively is not.

Economic and Social - In expressing these concerns, our members have been almost unanimous in condemning a policy of exporting power, at an obvious cost to us of having to finance new generating plants, and at a hidden cost of environmental damage. We feel that resources are being used up which should be left to future generations, while no useful benefit

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is accruing to the present one. The argument that costs can only be kept down through export profit needs careful examination.

Perhaps more efficient planning and operating could also keep costs from rising. Does the Lennox plant operate as cheaply as possible? Its capital cost was enormous, and it pays wages which are much higher than the local average.

Are the present methods and expenditures on advertising producing the best results? What are those expenditures?

We are concerned at the magnitude of the operation of Ontario Hydro and what they are able to undertake without going to the public for approval; e.g. Hydro decision in the 1950's to expand nuclear power extensively.

Vast social changes can arise because Hydro decides to put a power line or build a dam there; yet it is a self-contained unit with wide powers of expropriation, and not answerable to the public. We believe that a force as strong as this must be contained with a more democratic framework so that it is truly a servant of the public. Accountability might well mean that this building of plants to export power would be curtailed.

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Land Use - We would ask that good agricultural land be spared, and that development be away from the Toronto, Hamilton area, possibly into the Laurentian Shield.

We would emphasize that through education of the public using intelligible and honest information, revealing the true problems, the government and Hydro should play an important role in altering public attitudes and effecting conservative measures; I would say, examine the language in Task Force Hydro to see how informative it is for the public!

Financing - We note that the operating costs of Hydro -- paying wages and salaries, et cetera, is just a little less than payment of interest on capital borrowing.

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THE CHAIRMAN: Thank you very much. You certainly covered quite a few points there and have done it very well.

DR. PORTER: I think it is PCB - a very, very minor point.

I was interested to note your emphasis on inter-disciplinary activities. You might be interested to know that I personally have been advocating that kind of work in universities for about the past 15 years and established, I think, three inter-disciplinary research organizations in various places.

This is clearly the modus operandi of this Commission. We are very inter-disciplinary, as you probably noticed.

Your comment about the design research, I wonder to what extent the Design Council of Canada has been aware of this problem and if you have been in communication with them.

MS. PHIPPS-WALKER: No, I have not. It might be an idea to write to them or to contact them to find out if they can do some of these things that we suggest.

DR. PORTER: They certainly make awards for designs like the Royal Society of Arts in Britain has a similar sort of arrangement where

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there are specific awards and medals given each year; and perhaps your Association might trigger off such an enormously important idea such as this with the Design Council. Of course, they are very concerned at present with Habitant 1976 which takes place in Vancouver next year but even perhaps as part of Habitant 1976 this could be a suggestion which they might welcome because they are going to play a rather central role as far as Canada's contribution to that Conference.

MS. PHIPPS-WALKER: Yes, that is a very good thought.

DR. PORTER: So good luck. How many members are there in your Association?

MS. PHIPPS-WALKER: I think we have about 30.

DR. PORTER: We will leave it to you to make the contact with the Design Council.

MME. PLOURDE-GAGNON: For me, your brief is a very specific leadership program you propose to the government but I don't know really by which mechanism the government can realize this leadership. Do you have any suggestions?

MS. PHIPPS-WALKER: I would think one of the suggestions was the use of electric power in government buildings, that possibly the lights should

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be turned out, for instance, at 6 o'clock or 7 o'clock. We felt that the government could set all sorts of examples for conserving energy.

However, it might be an idea for us to point that out to them.

MME. PLOURDE-GAGNON: Not necessarily by special rules or regulation - you want the government to give the example first?

MS. PHIPPS-WALKER: Yes.

MME. PLOURDE-GAGNON: Do you think they have to establish a law or rules through the government, have to create a new rule or make a change in the by-laws?

MS. PHIPPS-WALKER: I could ask our Association about that. I don't think that was the intention. I think it was more voluntary than legislation that lights should be out.

MME. PLOURDE-GAGNON: New legislation, that is the word.

THE CHAIRMAN: I think governments do have a policy for not overheating buildings. They do have a policy for reducing intensity of lights both federal and provincial. I have seen the federal; it is not legislation but a series of memos outlining what they have done. I think they are looking for about 15% reduction in their energy costs in operating

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their buildings in Ottawa but they don't seem to do a very good job in the way of telling the public.

I really shouldn't say that because I have seen these full-page ads by the Department of Mines and Resources on 100 ways to save power. I think they are taking some leadership. I guess what you are asking for is more.

DR. STEVENSON: One or two points, Ms. Phipps-Walker, I find an interesting emphasis here on the provision of a basic quantity of low cost energy to every user, the price thereafter rising. It is a variant of the inverted rates proposal that we were discussing earlier. In the States it is called Life Line Rates Proposal, you are probably familiar with this, maybe 300 kilowatt hours for everybody at a low rate, subsidized by the large users.

Research on life line has shown that once again it has the problem that there is not a high correlation between utility use and income. A lot of rich people with two houses have little use in each house, a lot of which people who are in Florida for half the year and long periods of low use. There is a trend, it seems to me in my reading, towards the provision of energy stamps in the United States based on a means test. That would be a much

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more American solution because they are used to food stamps. Although I find it interesting, I see problems with it. I don't know whether it is easy to devise ways through a utility mechanism to reduce the burden on the low income consumer, but I hope the Association will think about that and when you come back maybe with your formal brief to us, you might work on those ideas.

I like your comments about appliance efficiency ratings. This is another area in which the Americans are well ahead of us. Electrical appliances are rated according to their energy efficiency, you know, a higher sales tax on inefficient appliances. These are all good points and some of them are new to us.

I see the emphasis on export policies again. Mrs. Mooney has taken this position publicly on behalf of the average residential customer of Kingston at the Ontario Energy Board hearings. I think one wants to be careful to have all the facts. Hydro says, and I believe they are correct, they don't build plants for export but they export only out of their reserve margin that they have anyway. They use American coal to do it, they say, so it doesn't use up our resources. The profits on the process are used to lower our rates. Anybody who wants to challenge that

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policy has to deal with the specific point that Hydro says are involved in it and not strawmen such as we are using Canadian resources or using up scarce coal and so on.

So again, I ask you to investigate the export policy of Hydro, see what you think of it in your formal submission and let us know again.

On accountability, don't you feel any sympathy for poor Mr. Taylor of Hydro who says that Hydro has for the last 2 or 3 years been the most studied utility in North America. We heard Mr. Fray a few minutes ago joining him in that concern.

MS. PHIPPS-WALKER: I think there has been more concern on the part of Mr. Taylor about representation throughout the Province and I believe that Task Force Hydro, you know, the unintelligible report, said something about regional representative, and I believe we have one here, Dr. Hay. Robert Hay is also the Public Utilities Commissioner. That is a step in the right direction but again I think we should maybe have an Energy Council or something like that representing each area the same as Health Councils are supposed to have some jurisdiction over the health costs and hospitals in the area.

DR. STEVENSON: Make your point to Mr. Timbrell. I have heard him talk about regional

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advisory citizens groups to assist him in energy policy planning. Make him know you want that. Perhaps he will appoint you. Thank you very much.

THE CHAIRMAN: Thank you very much, Ms.Phipps-Walker.

We will now hear from Bill Moreland and an associate of his speaking on behalf of the Federation of Agriculture, Frontenac County.

MR. BILL MORELAND: Brief to the Royal Commission on Electric Power Planning by Frontenac Federation of Agriculture.

Mr. Chairman and Commission members, I attended your visual presentation last evening, and listened to much of the discussion after it. As a result, I feel that you are a very capable group, and I hope that you will be able to achieve the goals set out for you and by you.

I am speaking mainly as a farmer-consumer because that is the business I know best. The word "farmer-consumer" may be a little strange to you but I think farmers need to emphasize that part more because we consume so heavily in comparison to the ordinary non-farmer.

My main concern is conservation of agricultural land. This is a long term view because in the short term, farmers would be further ahead

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economically if there was a shortage of land. It is simple economics to know that when the supply is limited and the demand is high, the selling price is also high. Thus with a limited supply of farm products and this would mainly be due to the limited supply of land, we could make a higher profit. As I said, this is a short term view.

As you can see by this argument, consumers of agricultural products are the group that should be primarily concerned with land conservation because it is more to their advantage than to that of the farmer.

The reason that I am dwelling on conservation so much is that I think this Electric Power Planning Commission can have a great influence on it. Electric power is Ontario's primary source of energy and I firmly believe that power-consuming industries will try to locate near the power source if at all possible. Commercial and residential development usually follow industry; therefore, the lodation of the power source directly influences future development of the area.

Mr. McCague said last evening that he didn't consider there to be an abundance of Class 1 farmland on the north shore of Lake Ontario between

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Kingston and Toronto. There is definitely less Class 1 land east of Kingston on down to Cornwall along the lakeshore. Nevertheless, if the present trend continues and the prime agricultural land around Toronto and in the Niagara Peninsula is taken out of farming or rendered unusable by air pollution, then more and more of our food will have to be produded in this area, on lower class land, at a higher cost.

My next thought is that possibly this trend should not be tampered with because by the time that a shortage of agricultural land develops, scientific technology will be feeding us from the sea, or by some other means. Farmers are confronted with these arguments quite often when we are involved in negotiations for better prices for our products. If, in fact, science is going to provide our primary need in the future, and food is our primary need, then land conservation for agriculture becomes secondary in importance. I hope that the Commission will give these possibilities due consideration.

As President of the County Federation of Agriculture, I can safely state that farmers as a group firmly accept that, in the foreseeable future, primary food production will not be separated from

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the land. Therefore, until convinced to the contrary, we will do our utmost to protect and conserve agricultural land.

I was interested last evening to hear the suggestion by retired Queen's Professor Stuart that if Ontario Hydro practises their energy conservation plans as actively in the future as they encouraged energy usage in the past, then their growth rate can be expected to slow dramatically in the coming years. I heartily endorse this suggestion. In the past, we have been continually pressured to use more and more electric energy. In fact, the greater the volume we used, the less we paid per unit. This was fine and I can see it helped speed Ontario Hydro's development, but I feel this should now be reconsidered. Canadians and North Americans use far more energy per capita than do Europeans. A great part of this use could be eliminated. Hopefully, the basic price of electric energy does not need to be increased to any great extent, but I contend that discounts for large volume usage should be seriously examined. Conservation of energy mainly involves common sense.

Farmers in their fifties and sixties recall nostalgically the "good old days" when a

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gang of neighbours with their horses would gather in the year's crop in short order. If eighty per cent of our population was willing to labour manually, as is the case in China, energy used for food production would be cut drastically. However, just the opposite is the case: Canadians are being educated away from dirty hands and tiring physical work, so that even with the advent of Farm Labour Pools, farmers have been forced to be heavily mechanized. Although we consume only two and a half per cent it would be difficult to find ways to reduce our usage. This is not necessarily the case in all industries and homes, however. That is where the common sense element will play its part.

The drastic increases in the price of petroleum products in the last two years have triggered much research into alternate methods for producing and harnessing energy. It is to be hoped that this Commission will closely examine the available material for possible future energy sources, and will support on-going research along the same line.

I have been approached by an engineer from Ontario Hydro as part of the preliminary public relations work being done for the 500 K.V.

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line from Lennox Generating Station to the Ottawa-Cornwall area. Apparently these studies are also underway for the second 500 K.V. line from Bruce, and some of the other projects mentioned in the Commission's terms of reference. I hope you will have sufficient time to examine these proposals to determine if they are necessary so soon and in such magnitude before they are carried out.

I would like to add something here from what I have heard before. A couple of the previous speakers, both from Public Utility Commissions express the opinion that possibly Hydro was asking for too much consumer and public opinion on their projects. I don't agree with this. I think it has to be controlled and monitored but I would like to say that I think it is a good thing when the public is asked to express their opinions on these projects.

I will close by saying that the Ontario Federation of Agriculture, with offices at 387 Bloor Street East, Toronto, has a very capable staff which stands ready to help you in your considerations at any time.

Thank you.

THE CHAIRMAN: Thank you very much, Mr. Moreland.

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MR. BILL LANGSTAFFE: I am Bill Langstaffe and I am an adviser to the Hydro Corridor Committee of OFA and I would also like to reiterate what Mr. Moreland has just said, that there is a real danger if you take seriously this consideration of taking away the participation of the public in the selection of routing.

I have been closely involved in it and as Mr. Kaiser has also told you earlier the results that we get from Hydro are far from what you will be told by the Hydro Public Relations Officers of what in fact happens in the field. We are deeply concerned at the OFA about the conservation of farmland. The one way we can do it, if the corridor is necessary through our prime farmland, 2500 heat units through Southern Ontario, the best of land, then it should be at the farmer's convenience along unopened road allowances or lot lines and we can't get that from Hydro and I would hope that your Commission findings would make strong recommendations that the conservation of farmland and the preservation of the ability to produce food economically for society must be protected as well as providing economic power for that same society. We have to look to the future as well as what we are doing just today.

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Certainly all you have to do is look around any of your prime farmland here and we all recognize it is much easier to build a power line through open farmland than it is along fence lines.

I have asked them publicly four times for confirmation that that policy would be followed on the line from Lennox to Oshawa but we have not been able to obtain it, and would certainly hope that your Commission can do something to steer them in the future to consider the production of food for our future society as well as providing energy by the most economical means.

MR. McCAGUE: Mr.Langstaffe, has the Federation ever had any discussion with respect to legislation to retain prime land in agriculture, any discussion along this line?

MR. LANGSTAFFE: I have sat on the Committee that formulated the land use policy and we presented it to the Cabinet. The portion of the land use policy as presented by the OFA that was compatible with society in general, but not necessarily the farmer, was accepted. The remainder of it was not and that has caused considerable hard feelings among the farmers in the OFA, that we sold them down the drain; they no longer have the right to sell their farmland; but we wanted to protect it for food production in the future

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irrespective of utilities or anything else.

MR. McCAGUE: Gentlemen, do you not think that public opinion is swinging in pretty strongly behind you in your effort to save this land, society generally? What do you think, Bill Moreland or Bill Langstaffe?

MR. LANGSTAFFE: I think we are making some progress but it is very negligible. I hesitate to take up too much of your time but I can quote within a mile of where I am a farmer was not allowed to get a severance to sell one lot in order to increase his production of milk. However, a developer came in, bought the farm for a good price, it is now out of production and within a year he had 11 severances across the 40 rods. So, public opinion may be behind us but not with a great deal of push, especially as someone else has said here today if you have the money and the contacts, it is possible.

MR. McCAGUE: You are familiar with the presentation by the Federation made in Toronto, I expect, Mr. Langstaffe.

MR. LANGSTAFFE: Yes, I have not seen the final one because of our little disruption in the mail.

MR. McCAGUE: And of course we have had some discussion on funding. I believe you have

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knowledge of that as well, the financing of groups, and there has been a Steering Committee formed that includes OFA.

By the way, Bill Moreland, the reference in your brief, I may have misunderstood last night but I was talking about the quality of land east of Kingston rather than Toronto to Kingston last evening and I know that there is quite a bit of class 1 and 2 land between Kingston and Toronto but a lesser amount, considerably less, east of Kingston towards Cornwall.

DR. ROSEHART: As you are aware, one of the priority projects of this Commission is to look at the need for this 500 Kv service into the Ottawa-Cornwall area. Could you comment on this approach with respect to public participation that you mentioned in your submission?

MR. MORELAND: Do you mean do I think it is a good thing?

DR. ROSEHART: "I have been approached by an engineer from Ontario Hydro ...", could you elaborate on that?

MR. MORELAND: He came to see me, phoned up and made an appointment and came to see me a week ago and he explained that there would probably be a need for 500 Kv line to feed Ottawa and Cornwall

replacing electricity now coming in from Quebec, I believe, by roughly 1980-1982, whenever the contract runs out. He explained his job as mainly public relations to get all the groups that he could involved, all the public groups, be it farmers, urbanites, anyone that would have input, and this was just the beginning of that in preparation for this line because he said the lead time is 6 or 8 years by the time they get all the groups' input and correlated.

DR. ROSEHART: What would be the next stage of your involvement?

MR. MORELAND: I'm not really sure. He did not elaborate either, he said there would probably be seminars in the future, fairly soon in the future, where all public groups will be asked to join in the discussion and submit briefs and so on, over I think, 18 months, then they will form a construction map, I believe, proposed routes and then the public will be asked again to examine them and help them to decide if they were the right areas or not.

MR. McCAGUE: Bill Langstaff, you are familiar with the procedures in connection with land acquisition.

MR. LANGSTAFFE: Yes, I am.

MR. McCAGUE: Are these being adhered

to, to your knowledge?

3/18 MR. LANGSTAFFE: Not in all specific cases, no sir.

MR. McCAGUE: No?

MR. LANGSTAFFE: When they get off the right-of-way, as you know they require a right-of-way and then if you have trees on either side of the right-of-way they just go in, drop the tree, it doesn't matter whether it is a sugarbush or what it is, there is a $5 price for the tree, they were complaining to us in Toronto a month ago about this, and they leave it to the farmer then to dispose of it as best he can. Any other utility will ask you, do you want it in logs or do you want it in firewood, but not Hydro. They just come in and drop the tree because it may be a hazard to their line when it is built. Not on the right-of-way, off the right-of-way, but it may be a hazard to their line when it has been built.

MR. McCAGUE: Would you want to expand further on any irregularities that have come to your attention in connection with the provisions set down?

MR. LANGSTAFFE: It is what they tell you and what they do. For instance, as one of the farmers said, they do selective cutting if they are going to put a line across and they told us before they

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were going to do selective cutting but as he found when they had finished their selective cutting on his farm they had left the hawthorne trees and any farmer will tell you how much value a hawthorne tree is to him.

Another one, they give you the right-of-way back as you said earlier, for $1.00 a year to work but they now found it was necessary to put a gravel road across his farm because of the soil. That land isn't a great deal of value to put back into farm production. It is those types of irregularities which I am certain that the Public Relations people would do a great deal to correct. They are not always in a position to do it.

I have a pipeline going across my farm right at the present time and we have the same problem. It is something that we have got to educate our society for in the future. It costs money to do it but not at the price of farmland.

MR. McCAGUE: Do you expect you will be dealing with these matters in your formal brief?

MR. LANGSTAFFE: Yes, sir.

Before coming here today, our mail situation has not been too good in our area, so I only got your brief a short while ago and I was not quite certain how now, and I feel that I am taking a narrow point of view because I am representing people between

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here and, say, Oshawa in a chain where we think we have pretty valuable land for production of food and probably your Commission have much more to do with the overall concerns than to spend a great deal of time on this now band. So my participation would be primarily in the interests of this area.

I can make it detailed. When you see a man, a young chap develop the farm, over 1,000 acres, and one field of over 250 acres, he then has to buy machines to work that field; and then Hydro in their line that they are going to put across may go straight across a 250 acre field.

Now, certainly he gets his land back to work but the field efficiency in that area where the big machine is goes down. If those towers are 900 feet apart, the field efficiency of that machine, say a 12-row planter goes down by some, say, 87% to 52% straight away.

MR. McCAGUE: There are two studies, I think, one at Bridgetown and one at Guelph. Maybe it is the Bridgetown study that relates to the point that you are just making. In any event those reports we understand will be out in the very near future. You may have seen the Bridgetown study?

MR. LANGSTAFFE: No.

MR. McCAGUE: We understand they

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will be along in the course of the next month.

THE CHAIRMAN: Thank you very much, Mr. Langstaffe and Mr. Moreland.

Is Professor Atherton here?

PROF. ATHERTON: I am here to speak as a specialist but what I say I will explain, and the recommendation I have to make is not primarily a technical one. Let me give you my credentials. I am a Professional Electrical Engineer; I am a registered specialist in magnetics and cryogenics which means low temperatures.

For the past ten to fifteen years my research and development both in industry and at Queen's has been on the applications of super-conductivity. I have made many developments in this field; and I am recognized as an international expert on applied super-conductivity and since there are not very many such experts in Canada I am here really to explain what super-conductivity can do for Hydro.

Well, super-conductivity means it can take certain materials, cool them down to very low temperatures indeed, then they lose all resistance. This of course has all sorts of exciting things. It means that we can pass an electric current with no loss at all through the conductor. If we join it in a circle the current will go on circulating indefinitely.

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Now, low or zero resistance is the first thing of interest because it means that we can achieve much greater efficiencies. For example, we can make much better power transmission lines in the future.

There is another application of super-conductivity which is also very important that we can produce economically very high magnetic fields and this is particularly important in the areas of power generation both in alternators and other forms of power generators such as magneta hydrodynamic power generators.

Let us talk for just a moment about super-conductive power transmission lines. Because we have got to keep them cold, to cool them to very low temperatures in order that they will lose their resistance there is a cost to pay for the refrigeration and that means they are not really economical until we get up to fairly large size. When we get to very large size transmission lines it looks as though super-conductivity is going to be the way to go in the future. The sorts of sizes of power transmission lines are a few thousand megawatts, those are the sorts of power lines you are now considering, gentlemen, and we believe that super-conductive power transmission

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lines are going to be in use in about the next decade.

Now, there is a great deal of world-wide interest in developing such lines. Therefore, there are programs underway in the United States, the United Kingdom, Germany, France, Japan, Russia. What about Canada?

Well, in Canada we have got really nothing going in fact and in the field of super-conductivity of power generation we have got nothing at all, no development work at all.

Now, why is this? Because, in fact, the development work is on rather a large scale. We in Canada don't have a national joint utility industry development institute which might be capable of undertaking such large scale development projects. Most of the countries have such a national institute. The States for example has the Edison Electrical Institute.

Now, the story in super-conductivity is in fact the familiar story when we come to examine the new forms of technology we are going to need in the future and these are hydrodynamic power generation which is another one where we can list the programs underway in the developed countries and perhaps we in

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Canada don't pass as a developed country. I would hope we are developing but we don't have that sort of a program.

Now, in the future we probably are going to need more electrical energy. The best way of doing this of course is to have higher efficiency. To do that we are going to need all sorts of new technologies. Super-conductivity is just one example. That is going to be used in the next decade. It is not going to be used here in Canada, obviously. Because we have not got the capability. We are already well behind the times there. We have a lot of catching up to do.

If we are going to be able to undertake the new technologies which are needed we are going to have to have some form of national development institute undertake large-scaled development programs. Such an institute will have to be a joint institute between all the electric utilities in Canada and the electric power industrial companies as well. Ontario Hydro by itself just is not large enough to undertake such programs even if we believed it were capable at present.

So that is my recommendation to the Commission, that we must consider co-operation between all our utilties in Canada and between our electrical

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industries in the formation of a national development institute.

Thank you.

DR. PORTER: Dr. Atherton, you did not exaggerate when you said you were an international authority in this field because I know that you are in the whole field of cryogenics.

There is one question I think that is very essential to our minds when we are talking about these advanced technologies. I assume you were talking about underground cables, for instance, cryogenic underground cable. I can't visualize an overhead cable. In fact, I suppose there would not be much point in it, I suppose.

PROF. ATHERTON: Indeed, such cables would in fact be underground and there would be land conservation as well.

DR. PORTER: The question is of course that in order to create the cryogenic conditions which would presumably be liquid nitrogen or if not, liquid helium.

PROF. ATHERTON: Principally liquid helium.

DR. PORTER: This of course needs energy input to maintain that condition of super-conductivity and what I am wondering is how does this

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compare? The energy requirements for maintaining the cryogenic conditions on the one hand with the losses you would get in a normal transmission line?

PROF. ATHERTON: That is part of the story that we have to balance to decide what is the minimum size we should make the transmission line super-conductive. On a very small scale, yes, the energy we require to run our refrigerators is more than we would save. In fact, on quite a modest scale we begin to have an energy saving but in fact, we have to look at the economic picture and it is not until we get to about a few thousand megawatts, probably about 2,000 to 5,000 megawatts power transmission lines that we really begin to save both on energy and economic costs altogether including capital costs as well as operating costs.

So as our demands go up then we have to have larger transmission lines and we reach the era when super-conductivity will be the best way to make it.

DR. PORTER: And you really feel that within this decade that these cryogenic transmission systems will be used fairly widely in some countries. Which countries?

PROF. ATHERTON: Almost certainly the first country to operate such a transmission line will

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in fact be the United States.

At present we have already left the realm of research in this area and we are into very much the engineering development problems and it looks as though there certainly will be such lines within the decade.

DR. PORTER: I hope you will supply the Commission with background information. This question, ladies and gentlemen, has cropped up on several occasions during our public meetings and people have been considering other methods of transmission, of the whole problem of the bulk transmission electric power, and the question of course of underground cables for various reasons has come up.

So the question you have raised is of considerable interest to the Commission.

PROF. ATHERTON: I think the main point is not the technology itself, but that we do not have the mechanisms for developing such technology in Canada. This is perhaps the biggest stumbling block of all, not that we are not yet doing anything in developing super-conductive cables but that we have not got the development institute capable of undertaking such work or indeed any other development program on a large

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DR. PORTER: Except of course CANDU for instance.

PROF. ATHERTON: We might say that there we are neglecting many of the logical developments again for the same reason that there is inadequate work going on on organic coolers, on the thorium cycle et cetera.

THE CHAIRMAN: I remember reading about super-conductors in the Stanford Research Institute literature survey that comes out periodically, at least ten years ago. How long has this been going on?

PROF. ATHERTON: I started about 15 years ago, in fact. It is a very long time in coming to fruition but we are certainly getting quite close to it now.

DR. ROSEHART: To not go to quite the extreme of the super-conducting material, have there been any material advances or studies in looking at, say, alloys of aluminum et cetera to increase the capacity of transmission lines.

PROF. ATHERTON: Yes, there has been quite a lot of work done on alloys also working at intermediate temperatures one of the most impressive ones have been indeed the use of aluminum. This is an intermediate temperature provided by nitrogen.

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This has been studied very extensively the last several years or so principally in the States at General Electric and also in Germany.

The results of those studies at present seem to suggest that it is doubtful if aluminum and liquid nitrogen will in fact find a niche at all in the power transmission cables. This is partly because there has been considerable progress from some of the others such as pressed glass insulated systems and also, of course, super-conductive cables have also made certain progress recently; so the future for aluminum looks dubious.

DR. STEVENSON: Dr. Atherton, I wonder in connection with your proposal for a national development institute I wonder whether this is, as the economists would say, the most cost effective way of getting into the technology and then to the next stages of testing and so on. There are other programs, for example, breeder's (sic) program in which it is my understanding that Ontario Hydro has, if you like, bought a piece of the action with some research support to the group in the United States studying the breeder (sic) in hopes this will give them access to the technology at some future date.

Is this a possible way to go?

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PROF. ATHERTON: Certainly one is very naive if one believes that a national development institute would be developing all on its own, as it were. There is very considerable international co-operation, and one of the reasons for having such an institute is it is the best method of providing such international co-operation.

DR. STEVENSON: And the same would apply with MIID, as you have mentioned. We have heard from Dr. Townsend. His proposal reminds me of yours in that it is clearly the same thrust for a greater Canadian presence in this research area without, however, the work the Russians have underway.

PROF. ATHERTON: That is right. There is no need for us to do everything. We certainly must have the capability to at least use what is done elsewhere.

DR. STEVENSON: The Edison Electrical Institute you mentioned is financed by the private investor owned utilities of the United States, as I understand it. We have no counterparts in Canada. This would have to be financed by public owned electric utilities. I wonder if that creates any difficulties.

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PROF. ATHERTON: I would say that there is considerable problem in that Hydro being publicly owned is trying to behave as it believes a privately-owned company might behave. A privately owned company realizes that the best way to invest in the future, if it intends to be there in the future. We will have to generate more of that spirit within Hydro too.

DR. STEVENSON: This is curious. You might think the problem would be just the reverse of what it is. All right, thank you.

THE CHAIRMAN: Thank you very much, Dr. ATherton. We will now hear from D. Good, Kingston Downtown Business Association.

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MR. DONALD B. GOOD, Q.C.: Mr. Chairman, unlike the previous speaker, I have absolutely no qualifications whatsoever to speak on the subject of hydro, but we were asked to prepare a brief so we are doing our civic duty.

I have read with interest the letter from the Chairman, in which he makes the excellent point that ordinary citizens have the right and responsibility to express opinions on the policies which affect us all.

As a citizen who is also the President of the Kingston Downtown Business Association, I therefore submit some opinions and ask some questions which have occurred to me during the past few years.

Moreover, I want to state my belief that the mechanism of a Royal Commission is one in which I have much faith. It is true that some Royal Commission Reports have been ignored, but others have been effective instruments for the development of policy, and I hope this present one will be such.

For several years now, indeed, before the present environmental concern became so publicly stated, I have questioned the much firmly entrenched Ontario Hydro belief in "economies of scale." It may be that some statisticians have been able to

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prove this in the past, but I am prepared to bet that one could find "number crunchers" who could prove the opposite. In any case, I believe very firmly that the philosophy should be examined very closely by people who do not subscribe to the theory as well as those who do.

For one thing, the giant plants and the grid pattern which arise as a result of putting into practice the so called "economies of scale" are themselves a problem to the environment and to the communities near them by being out of scale with the communities amongst which they live.

Indeed, this theory leading to the growth of the present mammoth Hydro Corporation prevailed at a time when Hydro was treated as a profitable commodity whose manufacture and sale should be encouraged. All of us can remember the exhortation to use more electricity, to buy more appliances and to plug in more lights, which used to come to us through the advertising media. Today, we are quite rightly taught to conserve the power and to persuade users to be economical. We now rightly treat electricity as a valuable utility which must not be squandered. I suggest a total re-examination of all former Ontario Hydro theories,

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bearing this in mind.

In this connection, an examination of Ontario Hydro surplus capacity would, I suggest, be in order. I understand that most world electric utilities plan for a surplus capacity of 10 per cent. I understand that Ontario Hydro plans for much more. If this is not so, I would be pleased to have the figures published. If this is so, then the Commission should be informed of the figures and for what reasons it was adopted.

A question of similar intent is at what price do we sell electricity to our customers in the United States. I acknowledge that a global view probably soon will have to prevail in the allocation of resources, but that moment has not yet arrived, and I do not believe that Ontario can initiate such a policy unilaterally. Consequently, I believe the Commission should be concerned with making sure that the electricity sold to the customers across the border is sold at a full calculated cost recovery rate. Some electricity is generated more cheaply than others. I believe that Ontario citizens should get the benefit of our natural resources.

One complaint has also been brought

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to my attention by others. Ontario Hydro prides itself on being a good employer and paying well. This is an admirable policy so long as it is well supervised, but reports indicate that such is not alwasy the case. Community dissatisfaction can be aroused when workers in less lucrative positions, who are nevertheless working hard, notice the difference in remuneration, or hear of apparent discrepancies in work load.

My firm belief is that Ontario Hydro subscribes to the "General Bullmoose" theory. That is, what is good for it is good for the nation. This could only be the case if Ontario Hydro listens to its constituents. I am relying on the Royal Commission to see that this occurs.

THE CHAIRMAN: Thank you very much, Mr. Good.

DR. PORTER: Thank you for your kind comments about my letter which, as mentioned, was written with very great sincerity.

I am sure that Bill Stevenson would like to perhaps comment vis-a-vis the export electricity and the price thereof, but I would just like to mention the situation vis-a-vis surplus capacity.

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Now, the Commission will certainly be looking into this in considerable depth. In fact, just as recently as this morning, I got a research outline for an independent investigation which this Commission will undertake in the field of reliability and the associated one of surplus capacity. Of course, they are just like this (indicating).

The question of the percentage of what is appropriate, of course, depends on the type of system. Systems which are essentially Hydro-orientated, hydroelectric generation, you will find a low surplus capacity and, indeed, Ontario Hydro, I believe, when the system was essentially hydro generation had a surplus capacity of, I think, only about 5 per cent to 7 per cent.

When you move into other fields of generation, you have down-times; you have uncertainty; and so on, arising and when I was over in Britain as recently as last June, I discovered that their surplus capacity right now, the central electricity generating load, was 40 per cent. This, again, arose out of their relationship with the gas consumption. There are periodic swings from one mode of energy like natural gas, for instance, and

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them to electricity and so on, and I suppose this sort of thing does contribute too to the question as to what is the most appropriate level, but I can assure you, Mr. Good, that this will be a concern which the Commission is going to delve into in quite considerable depth.

I am sure that Bill Stevenson would perhaps now like to comment?

DR. STEVENSON: I don't think I will say anything more on that export problem. We have had a pretty good discussion on that this afternoon. I hope you were here earlier, Mr. Good?

I would like to observe that on the question of "scale economies" I think I share some of your concern. We have heard, you know, for years and years that bigger is cheaper in the electric utility business. I think up until really quite recent times there has not been much doubt about that. Now we are in a period of considerable doubt.

We have to look independently at the scale of the individual generators, at the groups of generators in a station; we have to look at the scale of transmission equipment and so on.

Probably as a generalization, and

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generalizations are always wrong, of course, Hydro has now reached the point where further traditional scale economies are not available to it. That does not mean that it might not be marginally advantageous to go to larger generation units of the CANDU type in time, but one would not expect to see much advantage because of the larger units in a more reserved capacity which upsets the scale.

It is one of the issues that I personally am intrigued by and I hope we will have some opportunity to get into in this Commission, because it has a lot to say about the type of new capacity that Hydro should be planning for. Okay, that is scale economy.

The other question was, wage scales of Ontario Hydro. It has not been raised as often as we thought it might as we toured the Province. Hydro has had a policy for some time of paying its linesmen a standard rate no matter where they work in Ontario. The result is that in Toronto the linesmen's salary may not appear to be out of line with skilled workers of other kinds, but in Timmins and, for all I know, in Kingston, that might make the linesman a pretty well paid man which, I think perhaps, is the point you are making.

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We have to consider the alternatives, however, of having Hydro's linesmen paid different rates for the same work depending on the community in which they live and the problems of transferring people around, as Hydro does, causing them to have increases and decreases in their wages. It is for these reasons, I am sure, that we have this uniform scale of wages. These are just some of the problems that occur to you when you try to resolve these problems.

Have you any observations on any of that?

MR. GOOD: I don't think so. I think the point I am making about the wages, has a very bad effect. Ontario Hydro has maintained over the years that they sort of lead Ontario in that industry. Maybe the opposite has been a fact. They have had a disastrous effect on industry by some of their policies. They come into a community such as Cornwall; pay far greater wages and expect far less work than the people traditionally have been expected to perform and this has, I think, a bad effect on several economies.

DR. STEVENSON: Will you speaking to that in a later brief to us?

MR. GOOD: I did not plan to.

DR. STEVENSON: It is very desirable if you might try to put together your thoughts on that. You might be in a good position to do so whereas, let's say, a manager of a local utility who lost his linesmen to Hydro, because they paid higher wages might not feel that he was in a position to tell us publicly about his concerns.

MR. GOOD: Just for a very brief example, I pay my secretary $12,000 a year and Ontario Hydro pay roughly $15,000 in the same area, and I'm sure that my secretaries know that. That is a very personal observation.

THE CHAIRMAN: I won't say what is in my mind.

MR. McCAGUE: Mr. Good, in the final paragraph of your submission, and the entire submission is a very frank and straightforward paper, you make the statement that what is good for Hydro, they believe, should be good for the nation.

I hope that this Commission can be an instrument in developing better understanding. Ontario Hydro is a massive organization, it is true, but it is so very important to us and surely, and this thought is not a new one, we have heard evidence

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of that this afternoon in other presentations, but in my view, ladies and gentlemen, Mr. Good is raising a point that should concern everybody and somehow or other, also, I hope we can develop an atmosphere where there is a lot more respect and confidence and trust between this great utility and the people they are supposed to serve.

Mr. Good, the point you make is not a new one. I know that this Commission will try their utmost to improve on what apparently exists with regard to relationships and a lack of trust that is so vital.

Thank you.

MR. COSTELLO: Mr. Good, the bigger a company or an organization is, the more difficult it is to communicate between the company and the outside world. I used to notice this at Sault Ste. Marie. Our plant had 700 people and Algoma Steel had 8,000 or 9,000. We found it much easier to communicate, but you just have to work a little harder, I guess.

The other point, you really did not mention in the business of high wages, and goes back to construction. We have heard in the Bruce area the construction industry for one reason or another

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is paying fairly high wages in relation to the farm community around the Bruce area. This is a real problem in that area where there has been almost continuous construction for quite a few years. It must have been down here too, when the station was put in this area.

Thank you, very much.

We will now hear from Mrs. Mooney?

MRS. IRENE MOONEY: Thank you, Mr. Chairman, for allowing me to speak this afternoon and I would also thank the gentleman that gave me his time slot.

I ma here for Cataraqui, Frontenac and St. Lawrence Wards Ratepayer Association.

Sir, our group of ratepayers expresses concern about the present trend towards considering mainly the capital costs involved in any proposed expansion. Operating costs are not being looked at as critically as they should be.

Wages are a prime factor here. In recent times a number of negotiating groups have been striving to achieve parity with Hydro wages and salaries. This shows that the Hydro pay scale is the pinnacle. There seems to be no justifiable reason why a person who becomes a Hydro employee is

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suddenly worth 20 to 50 per cent more than a person with similar skills in other places of employment. Locally, we have experienced a drifting away from previous employment to the Lennox generating plant. This does not happen unless rates are so substantially higher that a move is worthwhile. We believe that pay scales should be in line with local rates, and not based on the cost of living in Toronto, which is bound to be much higher.

Further, we believe that this principle should apply to management as well as to workers. Despite our efforts, we have been unable to establish the pay scales for management positions, because no one will tell us what they are when we ask. This is all wrong. Salary scales for all public employees should be open, so that they can be watched and kept in line with similar jobs in other fields.

We should like the Commission also to look at the question of whether in fact there is any need for expansion above and beyond our own needs. Any expansion that is done with a view to exporting power could be very like the trap we fell into when we embarked on the Columbia River Treaty Project. It appeared at that time that we were getting a fantastic cash benefit, but as it turned out the

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increase in costs over the years ahs resulted in the constructions costs of the project being more than the payments. We are left with the United States getting most of the power, and we get the flooded valleys and the general damage to our environment. Much the same thing happened with the natural gas and oil when the National Energy Board accepted almost exclusively the data supplied by American-owned oil companies to arrive at decisions to licence export of oil and gas, which was supposed to be only that which is surplus to our needs. What was not made clear at the time was that the so-called surplus was not an actual surplus of fuel, but simply a surplus of pumping capacity, so that we now find ourselves in a position of critical shortage of these fuels for domestic use.

If we embark on a program of constructing generating capacity with the intent of exporting electrical energy for the purpose of making a profit and supposedly reducing future cost increases to the Ontario consumer, it is very likely that we will wind up with the same kind of negative result. In short, oil and gas are already in short supply, uranium is reported to be likely to run out soon after, and we will then have to import fuels at high cost having

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depleted our own lower cost resources and suffered from the effects of pollution and nuclear wastes.

Furthermore, in order to export substantial quantities of power, it will be necessary for Ontario Hydro to borrow further large sums of money to finance the construction of the generating plants. This will result in increased interest payments. It is precisely this requirement to find the capital costs of expansion that has created the problem which the Commission is trying to solve.

The cost of domestic heating is of vital concern to the average man. If it goes beyond the point where we can afford to heat our homes, what are we supposed to do? Freeze to death? In the dark?

In recent times it has become obvious that the public purse is not as limitless as was once thought. If Ontario Hydro overreaches itself, as New York City has done, we could find the Provincial Government having to get them out of trouble. That means us. Some of us feel we are coming to the end of what we can keep paying for.

In addition, we need to recognize that our resources are in fact limited, and we

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should plan to use them wisely. We believe that instead of using everything up for export, we should hold back so that something remains for our own use and the future use of our children. Otherwise there will be nothing at all left for them.

In conclusion, it would seem that a great deal of expense has been and probably will be incrured through investigations, commissions, hearings, meetings and representations et cetera into the spiralling cost of Hydro and even at this point in time and even beyond, it will seem to be impossible for me to obtain an answer to my question "If Ontario Hydro rates go much higher for the consumer on limited or fixed income, what provisions have been made or are being contemplated for him in order to ensure that he may still obtain electricity in his home for the necessities of life?".

THE CHAIRMAN: Thank you very much, Mrs. Mooney. We are all very conscious of the last point you bring up, I'm sure it has come up again many times.

DR. PORTER: Mrs. Mooney, I think you have made your points very succinctly and several of them will, of course, be considered by the Commission.

4.16

Bill Stevenson has already mentioned about the export power problem. This falls within our terms of reference. I think he, if not this afternoon certainly last night -- you were perhaps not there last evening, were you?

MRS. MOONEY: No, I was not.

DR. PORTER: I think he outlined the situation whereby, for instance, power is only exported on an interruptible basis, that is when there is no need in this Province for that power and if there is need then that power is cut off without notice. So I think that is one of the present guidelines but the problem is quite a complex one and we are talking about not only export to the United States but the terms of reference imply the inter-action between the provinces on an inter-provincial basis, that is electrical power being shifted or transmitted across provincial boundaries; and the whole of this problem does fall very much within our terms of reference and we will be studying it in depth.

MRS. MOONEY: Now that it is being exported and it is just supposed to be what we don't use up, or interrupt, that now is going over to Northern New York all summer for their air conditioners

4.17

now. This is what is taking a great deal.

DR. PORTER: Yes, but I think you will probably find, Mrs. Mooney, that we are receiving it perhaps from New York during the winter season when they have a bit of surplus and we need it because of our cold winters. We, during the summer, you will see on the curves of demand, during the summer months this is less in Ontario than the demand during the winter months so, during those periods, there are times when Ontario can assist her neighbours in this very sort of neighbourly way.

I think the point is, ladies and gentlemen, this is a very important issue, is in that increasingly there has to be a neighbourly policy of some kind. When a crisis situation happens in any one of these systems or subsystems, there is an influx of help, just as with any natural disaster as we know, International Red Cross operations and so on. I think you will find that when you look into this problem that the same sort of philosophies are beginning to apply.

DR. STEVENSON: Mrs. Mooney and I have had a number of interesting discussions going back at least two years, Mrs. Mooney, at Energy Board Hearings in Toronto, and she has brought the

4.18

message of the ordinary, residential customers of the Kingston area quite forcibly to the attention of Queen's Park and Ontario Hydro and certainly the Energy Board, so I look forward to you being here, and your brief was of the same thoughtful quality as your former ones have been.

I do want to say that I don't want this to sound harsh, Mrs. Mooney, but I'm going to read a sentence or two from a report issue last week by a Select Committee of the Legislature, which was looking into Ontario Hydro's 25 per cent rate increase request for 1976. It was in this report last Friday that the Committee, headed by Donald Macdonald, said that they thought a 22 per cent increase was justified. This was over the objections of two members of the Subcommittee who dissented on the grounds that an increase of greater than 12 per cent would be in conflict with the Federal guidelines.

This Subcommittee said:

"The Committee has considered the impact of the 22 per cent increase in the bulk or wholesale power rates on the retail rates."

I am paraphrasing here because the

4.19

22 per cent, of course, is the rate for the Kingston Public Utilities Commission.

"Taking the assumptions used by Ontario Hydro, a typical increase in the municipal rate attributable to the bulk power rate increase should be about 16.5 per cent."

The Chairman of the Kingston P.U.C. was quoted today as using that figure as a likely increase in Kingston.

Now, the Committee noted that the reduction required to reduce the impact on the mythical typical residential customer to the 12 per cent as the dissenters to the Committee had suggested, would result in a savings of approximately 30 cents per month for this customer over the Committee's proposed rate. So, to go from 22 per cent to a figure lower than that which would keep the residential rate at 12 per cent was going to save 30 cents a month.

The Committee concluded that the magnitude of the saving did not provide sufficient cause to risk putting Ontario Hydro or the Province in the position of being unable to raise the needed capital in the period prior to its final report.

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In other words, the Committee is saying that for the price of a cup of coffee at the Holiday Inn, they were not going to put Hydro's financial program at risk. This was an interesting conclusion because it put in a more dramatic way problems that the Energy Board was struggling with in its reports that you have read.

We don't know that Hydro's financial program is at risk, but we know that we are near the precipice and if they don't recover it in rates in order to keep the organization whole, you become closer to the brink and the politicians address themselves squarely to the question, I think, of the trade-off between the impact, if you like, in your constituency, the average residential customer, and it's far harder to define the question of financial integrity. So this is what they are saying. I commend the report to you. Perhaps you will think about it, and I don't know if it will change any of your opinions or not, Mrs. Mooney.

MRS. MOONEY: My concern still is the same as it has always been. If the little man that is conserving and is trying to save and is being very careful then his rates should not be the same as the one that is, you know, have all the

4.21

lights on; so they should do something for the person that is trying to save. There should be some structure set up for the one that is trying to conserve.

What are these people going to do? It might be only, as you say, 30 cents, but each time that goes up, their cost of living doesn't go up. So these are the people that I am concerned about. I'm not concerned about the ones that can afford to pay for it, but I am concerned about the little man that can't afford any more.

DR. STEVENSON: Last night we talked about the possibility of charging more for power used in the daytime than power used at night. This would more accurately reflect Hydro's costs of providing power. It has not been done, I think, partly because utility people have said, oh well, nobody will be induced to do his washing at 9 o'clock at night for a few cents on his electricity bill and I have felt that you were saying in effect that is probably not true anymore?

MRS. MOONEY: No, it isn't.

DR. STEVENSON: Poor people who are really burdened by their electricity bill would be glad of an opportunity to reduce it.

4.22

MRS. MOONEY: To do anything.

DR. STEVENSON: That's a very important comment. We are going to take that into account, I am sure.

DR. PORTER: I think the other important comment too is the psychological implications. You were talking as a matter of principle. This 30 cents is very significant to some people but it is also significant to other people that could afford far, far more than this 30 cents per month in addition to their bill that even though they are trying to conserve energy because they know that this is good for society as a whole, maybe they look around and see that other people are not doing the job.

This, we recognize as a very basic point and certainly one that the Commission will address itself to.

Thank you, very much for coming. As Doctor Stevenson has said, you epitomize the real individual and this is what we hope we have more input from.

THE CHAIRMAN: There was just one point I thought I should make. I'm really not here to defend Hydro but they did go through a long, long

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strike not too many years ago in trying to get their wage scale somewhere closer to what they felt they should be. I had forgotten that, so I think maybe we should remember it. We hear a lot of wage scales and salary scales in the Hydro organization. From the little I've seen of it, I think it is true, but they did try and fight it off; they did take a long, long strike.

There were very few power interruptions that year. Maybe it was a good year, lots of water and not too many storms, but I think we had our quota of storms in the North that year, we usually get them, so I think we got them all.

Our next submission is from Mr. and Mrs. Bonwill. This will be our last before we adjourn to eat.

MRS. ELLEN BONWILL:

This presentation is by Mr. and Mrs.; but Mrs. Bonwill is doing the reading. This appeared in a column in The Whig-Standard of last Saturday.

Canadians have, as families, and as town groups, responded to the need for providing greater parts of their own food, when that need has risen.

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It is time for a rebirth of that cooperative pioneer spirit, once evidenced in work-bees, to share responsibilities among members of a larger community, for meeting our future energy needs.

Now, there is, on exhibit at the Institute for Energy Conversion at the University of Delaware, Newark, Delaware, a house with apparatus for collecting heat and solar-generated electricity from the sun. Its development was financed by a local electric company, the Eastern-Shore Light and Power Company of that area.

Their publication on this states: "We can make the future of our society brighter by using the energy of the Sun that shines upon it. Solar energy conversion will have an influence on our balance of payments, by reducing the need for oil imports. It will improve the ecological balance and reduce political frictions with foreign countries by equalizing resource potential between developed and developing nations."

Continuing, they say "There are ways of converting Solar energy into a useful form: first, by direct conversion into electricity with solar cells, and also, conversion into heat with flat-plate

4.2 (2)

collectors; also, high temperature heating using focusing and filtering devices.

This experimental house, whose building was sponsored by a light and power company, was called SOLAR ONE, because they plan to go right ahead made Solar Two, and so forth. Now, this house produces more power than it uses during the midday hours, from 10 in the morning until 3 in the afternoon. At those times, through a reverse meter system, the house feeds power into the local power-grid. At other hours of the day, and evening, the house requires more power than it produces; at those times, through a regular meter system, it draws power from the local power-grid. At stated times, there would be a balance struck, to see what money would be owing to the local power company, just as regular hydro bills are metered.

Further, since the electricity is largely consumed at the point of production, there is no costly line-drop in moving power great distances.

Mass production of such houses, or retrofitting of present houses with solar cells for the production of solar-generated electricity would shave the peak from the high-demand periods for industry.

4.3 (2)

I was talking to Mr. Fay just a moment ago at the coffee break, and he said that the midday time was definitely the peak time of energy demand. Now, we might think that snow cover would be a problem, but with Ontario's reflective snow cover in the winter months, reflective sunlight would compensate for the shorter hours of sunlight.

A greater emphasis now, here is a separate point entirely, a greater emphasis on off-peak use of power, with inviting lower rates, shown on our monthly bills would encourage homeowners to take advantage of this way of saving. A gentleman spoke about this just a moment ago. I would like to say I feel this would be definitely true. I have found, when we formerly lived in Connecticut, I know that we had certain appliances which were set up, a water heater which was set up on an off-peak basis, and we tried to follow this through, but I had heard of people where the electric dishwasher, the automatic washing machine or the dryer, and several other things, would automatically turn on or people would watch the clock -- 11 o'clock, time to go push the buttons.

If people are going to be using these work-saving appliances and if they can be

.4 (2)

induced to use them at off-peak times, it is a definite saving to everyone concerned. I believe that it would be done.

This might encourage certain changes of habit: for instance, if all housewives with electric washing machines could be induced to do their laundry at night, rather than on Monday morning, a definite cut in demand for electric power at the peak time of need would be achieved. With sufficient financial incentive, and if educational data were prepared, both shown on financial statements, a response could well be expected which would be definitely worthwhile.

The third point, Government loans to persons starting to build their own homes has resulted in a tremendous mobilization of private capital to stimulate this sector of the economy. If householders were given similar financial incentives to set up energy-saving and energy-producing installations, the financial support from the private sector would probably be equally successful.

Now, what would we save? We would save the cost of building a greater number of plants for electrical production; we would save the worry of problems about balance of payments to foreign

4.5 (2)

countries; we would save a great deal of pollution of the natural environment, upon which we all depend for the air we breathe, the water we drink, and the food we eat. Furthermore, we would be building something which would last a long, long time, and would not be dependent upon our depleted fossil fuel resources, nor on nuclear fuels, which may be scarce in the future.

Having visited this experimental house, we are convinced that it is a practical step toward a better future, and a needed adjunct to present electrical power production, in order to make the future a better one.

For those who might care to see it, I have here a little leaflet and the address is on the back here if you want to write it down. I'm sorry, I don't have any to pass around.

I also have a book here "The Handbook of Homemade Power", put out by the Mother Earth News. If people would like the address on that, that is Post Office Box 70, Hendersonville, North Carolina. It is $1.95, and well worth it.

However, you don't need to go that far away to get information on saving a good many kinds of energy. If you take a trip up to

4.6 (2)

MacDonald College to Brice Research Institute at St. Anne de Bellevue, you can see many, many interesting energy saving devices which are planned to be built -- they were planned to be built for the Third World countries. We don't see any reason why Canadians all over should not have the advantages of these too, and with this in mind, we, with permission from Brice Research Institute and a certain amount of financial support from the Ministry of the Environment, we have set up at our camp in an educational area, a certain number of these devices which you are all invited to come and see at any time. They do not produce electricity. Rather, they do things which cut down one's need for electricity. For instance, we pump water by wind power; we have a solar heating baking installation, an oven, through the assistance of Alcan in providing materials. We have in progress a possible way of charging batteries. This is not a completed thing; this is an on-going educational thing to which school groups have been coming. We don't limit our educational opportunities to school groups; we invite everybody.

DR. PORTER: Mrs. Bonwill, this is an educational exercise in pointing the way where

4.7 (2)

many people might move in the direction of true conservation. The solar heated home, as you probably know, there are a few in Ontario. When I say "a few", two or three that I know of, and a very effective one which we are going to hear a great deal about is in Arcan, West Germany, which has been built by the Phillips Company at Eindhoven and is 100 per cent a rather electric installation.

Indeed, ladies and gentlemen, the solar energy problem essentially is one of capital cost in setting up the installation in the first place. The heat pumps necessary to store heat and so on and the special devices for collecting the solar energy in the first place, but having put in that capital, then the cost of the fuel is zero, so you don't have any fuel bills after the initial cost.

MRS. BONWILL: I would like to have you see the one at the Brice Research Institute. It is built of rocks and they don't cost very much.

DR. PORTER: This, of course, is showing, as I said before, the way in which a society will move in order to conserve valuable non-renewable resources, and as I said in my talk last night, we have got to conserve the low entropy

.8 (2)

materials and this is a direction which you are suggesting, materials like coal and oil and uranium and so on and so forth.

Thank you.

DR. STEVENSON: Just to observe that the Delaware house is a little different than the ones in Ontario that are under construction. It generates part but not all of its electrical requirements and, as you point out, takes the rest from the utility at off-peak periods at night which, as we discussed today, is very much cheaper for the utility to provide.

It is just so much more that I have to learn about the economics of the inversion, for example, from the DC power that is created through a solar cell back to the AC power. I am interested in whether this is likely to be economic in the near future or whether one should concentrate on merely providing the space heating requirements through the solar cells.

MRS. BONWILL: They seemed to think that this was quite economically sound because it was a totally electric house.

DR. PORTER: You only need, as a matter of fact, AC in rather special circumstances,

4.9 (2)

really. You don't need it for lighting, for instance, or for electric stoves, so it is rather interesting.

DR. ROSEHART: You might be interested in a program the United States has where they are hoping to achieve 25 per cent of all their energy from the sun by the year 2025.

MRS. BONWILL: Along that line I have heard there is a definite plan to make it permissible to subtract as an income tax deduction any money you spend in either insulation or in installing solar energy things, and this, of course, is another form of Governmental encouragement similar to our rebate on sales tax for cars and our help with new houses.

THE CHAIRMAN: Yes, financial incentives are good.

MRS. BONWILL: Financial incentives are wonderful!

THE CHAIRMAN: For those who get them, yes.

MME. PLOURDE-GAGNON: Can solar energy be used only for residential heating?

MRS. BONWILL: No, it can be done with many, many things.

4.10 (2)

MME. PLOURDE-GAGNON: For industry too?

MRS. BONWILL: Yes.

DR. PORTER: Ladies and gentlemen, thank you for staying to the bitter end. I think you all agree we have had an interesting afternoon. Some of you will be coming back tonight. We will re reconvening at 8 o'clock. The meeting is now adjourned. Thank you.

--- The following brief was submitted but not read:

"Commissioners:

"It is the pleasure of the members of the National Farmers Union in District 3, Region 3, to have a Royal Commission conduct an inquiry with the terms of reference and objectives that you are blessed with.

"We hope that your aims and objectives are as broad as ours, and they are: "To unite Canadian people dedicated to the development and implementation of alternatives to Canada's present system that would allow the alliance of organizations and people having similar objectives to control and direct the production and seek the end of wasteful inequities and the destructive use of human and natural resources and energy in Canada and throughout

4.11 (2)

the world.

"We trust the Commission will hear all persons and their views and will question all information be it hard fact or philosophical. Members of your Commission should give openly pro and con comments and questions of all written or oral presentations. This would openly expose all lines of thought and biases.

"To ensure that your recommendations to the Government are known, may we suggest that a follow-up by means of a yearly report to the public for a period of five (5) years following, be published to inform the public as to the action or inaction our government has taken and the deviations from your recommendation be pointed out.

"In a formal brief for presentation to your Commission in 1976, we include the index as follows:

"A - introduction

B - interpretation

C - History of: 1- Hydro

2- Petroleum

3- Rail and Transportation

D - Planning Act and Official Plan

E - International Goals

4.12 (2)

"F - National Land Use and Tenure of Occupancy

G - Rail Transportation Policy Goals

H - Transportation Policy Goals

I - Conclusion

"We sincerely trust your Commission to carry out your mandate in a careful and rational manner and concluding in a non-bias view, a recommendation for the good of the people and social fabric of Canada firstly and for a rational approach to the country and its economics in some sequence of priority.

"We suggest that in carrying out your task you lend yourself to our statement above re; resources and energy and not just "Electric Power" as the title of your Commission might suggest. In the alliance which we the members of the National Farmers Union strive in assisting you in our endeavour to determine our destination for the future.

"Respectfully,

District 3, Region 3,
National Farmers Union."

--- Whereupon the Meeting adjourned.

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